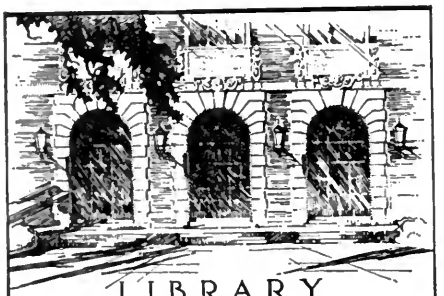

NOTES ON AFRICAN BULBULS

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AUSTIN L. RAND

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Library of Congress Catalog Card Number: 58–13825

PRINTED IN THE UNITED STATES OF AMERICA
BY CHICAGO NATURAL HISTORY MUSEUM PRESS

African Bulbuls

The following notes on the classification and taxonomy of bulbuls were brought together in the course of preparing the section on African bulbuls for the continuation of Peters' *Check-list.*

It is a pleasure to acknowledge the help of various persons in lending specimens and in other ways, especially the help of Dr. Dean Amadon and Dr. C. Vaurie of the American Museum of Natural History, Mr. P. A. Clancey of the Durban Museum, Mr. H. Deignan and Dr. H. Friedmann of the United States National Museum, Mr. J. C. Greenway of the Museum of Comparative Zoology, Dr. R. E. Moreau of the Edward Grey Institute, Oxford, and Dr. J. G. Williams of the Coryndon Museum.

Among the collections available in Chicago Natural History Museum and especially important in this survey should be mentioned the van Someren collection of East African birds, acquired in 1950, and the A. I. Good collection of Cameroon birds, the property of the Cleveland Museum of Natural History but on deposit here.

Generic limits.—The generic allocation of the greenish and yellowish olive bulbuls has always been troublesome, but fortunately we have Delacour's (1943, Zoologica, **28**: 17–28) review of the family at the genus and species level. My treatment for the African forms differs from Delacour's in the following:

Neolestes, which Delacour does not include as a bulbul, seems best included (see Chapin, 1953, Bull. Amer. Mus. Nat. Hist., **75A**: 154).

Tylas, which Delacour also excludes from the bulbuls, I have retained for lack of a better place for it.

Besides the other genera Delacour discussed, two others are occasionally placed in the bulbuls:

Suaheliornis has been placed in the Pycnonotidae by some authors (Mackworth-Praed and Grant, 1955, Bds. E. and N. E. Afr., **2**: 134). In some ways it recalls *Phyllastrephus,* but it seems still closer to the Sylviidae genus *Macrosphenus,* which itself seems a heterogeneous group.

Lioptilornis (genotype *nigricapillus* Vieillot) has been called a bulbul by Vincent (1952, Checklist Bds. So. Afr., p. 65), but it seems better considered a timaline, as Delacour (1946, L'Oiseau, **16**: 30) and Chapin have considered it.

The genera and species of African bulbuls that I recognize are as follows: *Pycnonotus*, 15 species (others in Asia); *Calyptocichla*, 1; *Baeopogon*, 2; *Ixonotus*, 1; *Chlorocichla*, 5; *Thescelocichla*, 1; *Phyllastrephus*, 22; *Bleda*, 3; *Nicator*, 3; *Criniger*, 4; *Microscelis*, 1 (others in Asia); *Neolestes*, 1; and *Tylas*, 1; i.e., in Africa, I recognize 13 genera (5 of which are monotypic) and 60 species. Sclater (1930, Syst. Av. Aethiop.) recognized 25 genera (12 of them monotypic) and 70 species, with certain of these species (now in *Phyllastrephus*) in the Timiliidae and certain genera (*Nicator*, *Neolestes*) in the Laniidae. Sclater recognized 15 species which I consider subspecies, and four of his subspecies I consider species. One species, *Phyllastrephus orostruthus* Vincent, 1933, was described after Sclater's *Systema* was published.

Pycnonotus barbatus group

This group wholly or in part has been reviewed a number of times, notably by Hartert (1906, Nov. Zool., **13**: 389, 392), Zedlitz (1916, Jour. f. Orn., **1916**: 68), Sclater and Praed (1918, Ibis, **1918**: 697), Gyldenstolpe (1924, K. Sv. Vet. Akad. Handl., (3), **1**, no. 3, p. 189), Sclater (1930, Syst. Av. Aethiop., p. 369), Friedmann (1937, Bull. U. S. Nat. Mus., **153**: 105), Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 147), Meinertzhagen (1954, Birds of Arabia, p. 179), and White (1956, Bull. Brit. Orn. Cl., **76**: 155–157).

There is a great diversity of opinion as to the specific limits in this group. Some put them all in one species: others make a number of species of them. I recognize four species: *xanthopygos*, *capensis*, *nigricans*, and *barbatus*. These four forms are nearly, if not completely, geographical representatives. But no intergrading or hybrid populations connecting them are known. The first three species are monotypic. The fourth has many subspecies, some very different from the others, but hybrid or intergrading populations between them all are demonstrated so that all must be conspecific.

Pycnonotus xanthopygos Ehrenberg, 1833

Though sometimes considered conspecific with *P. barbatus*—and stray individuals have been taken in Egypt, in the range of *P. barbatus arsinoe* (Meinertzhagen, 1954, Bds. Arabia, p. 179)—no inter-

mediate or hybrid populations appear to exist. In characters of color and of eye wattle, *xanthopygos* is more like the South African *P. capensis* or *P. nigricans* than it is the geographically adjacent *P. b. arsinoe*. A specific status seems indicated.

Three races have been recognized at various times. A reading of the literature and an examination of a small number of skins inclines me to accept Meinertzhagen's (loc. cit.) view that no races can be recognized.

For form of citation and date, see Zimmer (1926, Field Mus. Nat. Hist., Zool. Ser., **16**: 204, and references therein).

Pycnonotus nigricans Vieillot, 1818

Sclater (1930, Syst. Av. Aethiop., p. 370) considers *harterti* Zedlitz, 1916, a race of *nigricans*, following his review of 1918 (Ibis, p. 698), and a trinomial is still commonly used for *P. nigricans* in South Africa. However, the type series of *harterti* was examined by Gyldenstolpe (1924, Kungl. Sv. Vetenskapsakad. Handl., (3), **1**, no. 3, p. 190), who found it to be without eye wattles, closely related to *tricolor*, not *nigricans* (see under *P. b. tricolor*), a view that Austin Roberts put forward a number of times.

Apparently *P. nigricans* has no subspecies. The overlap in range of *P. nigricans* with *P. barbatus* may be only seasonal, but as no intermediate populations are known in the comparatively well-worked South African area, specific status seems indicated for *nigricans*.

Pycnonotus barbatus Desfontaine, 1789

Chapin's treatment (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 147–154) of this species is the best to date.

The birds that I include here have sometimes been included with *xanthopygos*, *nigricans* and *capensis* under the oldest name, *xanthopygos*, and at the other extreme even in recent years have been divided into several species. For instance, in 1930, Sclater divided what is here considered *barbatus* into four species. Within this species, in general appearance, the following three groups are evident:

barbatus group: under tail coverts white; northern Africa.

tricolor group: under tail coverts yellow; central and southern Africa.

dodsoni group: under tail coverts yellow; back and breast more or less patterned; eastern Kenya.

However, none of these can be kept as species, as *barbatus* and *tricolor* intergrade or hybridize in Gabon, and *tricolor* and *dodsoni* intergrade in three known areas in Kenya. Other attempts to further subdivide the complex into species have been based on interpretations of intergrading populations.

White (1956, Bull. Brit. Orn. Cl., **76**: 155–157) most recently has discussed the variation within this species. He outlines six "primary subspecies" and some of the "secondary subspecies" and ignores others. It seems that a review of the material available is advisable.

It should be kept in mind in studying this species that the change from fresh plumage to worn, sun-faded body plumage is very great.

Pycnonotus barbatus barbatus Desfontaine, 1789

Our specimens from Morocco, Algeria, and Tangier measure: Wing, ♂ 101, 102; ♀ 95, 96, 99. Tail, ♂ 90, 94; ♀ 88, 89, 89, 91 mm.

Pycnonotus barbatus inornatus Fraser, 1843

Our specimens from Senegal, Portuguese Guinea, Sierra Leone, Liberia, and French Sudan (Bamako and Bandiagara) measure: Wing, ♂ 90, 96, 97, 98, 99; ♀ 90, 91, 92, 92, 92, 95. Tail, ♂ 83, 84, 86, 88; ♀ 77, 78, 79, 82, 84 mm.

The smaller size, especially the shorter tail, and the slightly lighter bill are the main characters of this lightly differentiated race.

Pycnonotus barbatus goodi Rand

Pycnonotus barbatus goodi, Rand, 1955, Fieldiana, Zool., **34**: 333—type locality Garoua, northern Cameroon.

This is an intermediate between three quite different forms: *arsinoe* of Egypt and Darfur; *inornatus* of Upper Guinea; and *nigeriae* of southern Nigeria and southern Cameroon; but as it is moderately distinct from any of these, and occupies a considerable range, it probably should have a name. This subspecies has somewhat the same status as an intergrade and the same claim to nomenclatural distinctions as does *P. b. ngamii* and *P. b. fayi*.

Specimens examined.—Cameroon, Garoua, 2; Nigeria, Zaria, 2 (AMNH); and Ashen (or Air), 3 (AMNH).

Pycnonotus barbatus arsinoe Lichtenstein, 1823

The range usually given is the Nile Valley south to Lake No and east to Air (Agades and Asben). I have referred Air birds to *goodi*, so the western edge of the range now extends only to Darfur and Kordofan, following Lynes (Ibis, 1925, p. 120), who also mentions specimens of this species from the Red Sea Province of the Sudan.

This race differs from the preceding three in having the head much darker (black), and a whitish mark back of the ear coverts.

We have but three Egyptian specimens. Measurements: Wing, ♂ 92, 92; ♀ 87. Tail, ♂ 83, 85; ♀ 83.

Apparently what happens where this form meets the *tricolor* group (*minor*) of the Sudan and Belgian Congo has not been critically studied. Lynes (op. cit., p. 119) and Cave and Macdonald's (1955, Bds. Sudan, p. 246) data would seem to indicate that the two meet without intergrading in the Sudan, while they intergrade in West Africa; this would indicate treatment as subspecies.

Note that the name *arsinoe* is often emended to *arsinöe* or *arsinoë*, but it was originally spelled without diacritical marks.

Pycnonotus barbatus schoanus Neumann, 1905

As compared with *arsinoe*, this race of Abyssinia is only moderately distinct, in the generally darker back and the darker breast, as usually described. The pale fleck back of the ear coverts is only indicated at most. There seems little difference in size. Our specimens of *arsinoe* measure: wing, ♂ 92, 92; ♀ 87; but Meinertzhagen gives the measurements of 26 Egyptian specimens as wing 86–95. Our Abyssinia specimens of *schoanus* measure: wing, ♂ 92, 93, 93, 95, 96, 99; ♀ 90, 91, 91, 92, 92, 93. They come from the following areas: Eastern Amhara, 8 (Gumara River, Gondar, Gendoa River, Lake Tsana); Gojjam, 1 (Jigga); Addis Ababa area, 2 (Mugger River, Modjo); Sidamo, 2 (Alata, Agara Salaam). The range thus extends from Eritrea and Bogosland south over central (east to Dire Daoua; Friedmann) and southwestern Abyssinia to Sidamo (but not the southeast Province of Bale). Our single specimen from Boma, Anglo-Egyptian Sudan (♂, wing 93 mm.), is worn but presumably is this form. Apparently no intergradation with the yellow-vented forms that replace it to the south is recorded, but *somaliensis*, the next race, links it to *dodsoni* of East Africa.

Pycnonotus barbatus somaliensis Reichenow, 1905

There has been discussion as to the validity of this form, and its characters. See Friedmann (1937, Bull. U. S. Nat. Mus., **153**: 114), who says it is known only from Zeila and from Somadu on the inland plateau.

The type series came from Zeila, which is on the coast in extreme northeast British Somaliland, not far south of Djibouti.

Of specimens I refer to this race we have: French Somaliland, 2 (Djibouti); British Somaliland, 2 (Hullier); Abyssinia, from Bale Province, 6 (Sheik Hussein, Webi River, Luku); from Arusi Province, 1 (Abu Kasim). This is a fairly uniform series. Measurements: Wing, ♂ 88, 89, 90, 92, 93, 94, 94; ♀ 83, 85, 86 mm. Thus the specimens average smaller than *schoanus*, but this difference is hardly distinctive. The bill is about the same length in *schoanus* (♂ 17, 18, 18, 18.5, 19, 19, 19 mm.) and in *somaliensis* (♂ 18, 18, 18.5, 18.5, 19, 19, 20 mm.), but in the latter it is somewhat more slender, as noted in the literature.

However, in color our specimens show this to be a fairly distinct race. Comparing fairly fresh-plumaged birds, such as those from Djibouti and Bale, with similar plumaged birds(*schoanus*) from Amhara and Sidamo, the upper parts are paler, due to more pronounced paler edgings to the feathers; the whitish fleck back of the auriculars is larger and more conspicuous; the pale edgings to the otherwise dark feathers of the lower breast are more conspicuous; the dark of the upper breast tends to continue onto the lower breast in a streaked pattern; and the tail feathers have vaguely defined but larger pale tips.

Taken together, these characters make *somaliensis* a fairly distinct race. It is interesting that the more scaled pattern with incipient streaks on the breast and the more pronounced white fleck back of the auriculars are trends in the direction of the yellow-vented *dodsoni* that replaces it to the south. Further, the only immature-plumaged bird in the series, from Luku, Bale, a locality from which we also have two white-vented adults, has pale yellow under tail coverts. If this is constant in the immature it would be another racial character for *somaliensis* and a further indication of the close relationship with *dodsoni*.

The range of *P. b. somaliensis* is thus French Somaliland, western British Somaliland, and southeastern Abyssinia (to eastern Arusi and northeastern Bale). It probably occurs also in southern Harar,

but not in the Hawash Valley (Dire Daoua, etc.) where Friedmann (op. cit., p. 113) records *schoanus*.

Pycnonotus barbatus nigeriae Hartert, 1921

Compared with *inornatus* to the northeast, the birds in the area from southern Nigeria and central and southern Cameroon to eastern Gabon are characterized by having darker heads, backs and upper breasts; the white of the belly contrasting more sharply with the dark breast; and under tail coverts usually faintly tinged yellow. These are the birds I refer to *nigeriae*, restricting the name *gabonensis* to the birds from Gabon, in which the yellow of the under tail coverts is about half way between the nearly white condition of *nigeriae* and the bright yellow condition of *tricolor*.

The range of *nigeriae* has been variously given as only in Nigeria, or from Nigeria east to Gabon. This seems due to difference of viewpoint: some authors seem to have regarded birds with any yellow tinge in the under tail coverts as *gabonensis* and only birds with pure white under tail coverts as *nigeriae*, while the range of *nigeriae* has been extended southward on the basis of the fact that the yellow tinge of the under tail coverts is not observable in field identification.

Examining a series of six topotypes of *nigeriae* from Degama, Lower Niger, I find the under tail coverts are slightly tinged yellow or edged yellow in two specimens and fairly heavily in one other, as much so as in birds from as far east as parts of western Gabon. Birds that differ little, if at all, from the southern Nigeria birds in the amount of yellow in the under tail coverts are represented in our series as follows:

British Cameroon: Buea, 1.

French Cameroon: Yabassi, 1; Sannaga River, 2; Yaoundi, 1; Edolowa, 6; Bitye, Ja River, 4; Tibati, 1; Ngaoundere, 1 (back slightly paler than others).

Spanish Guinea: Corisco Island, 2.

Gabon, Cape Esterias, 5; Mouila, 3; Labamba, 1; M'Bigou, 3; Tchibanga, 2; Mimongo, 8 (7 *nigeriae*-like, 1 *tricolor*-like).

In southeastern Cameroon and in certain localities in Gabon occur mixed populations whose allocation to either *nigeriae* or *gabonensis* may be questioned; they seem closer to the latter, as discussed under *gabonensis*. The pale back of the Ngaoundere bird mentioned above is an indication of intergradation with *goodi* of northern Cameroon.

Despite the acknowledged intergradation of the *barbatus* and the *tricolor* group through *gabonensis*, the occurrence within the range of *nigeriae* of occasional specimens of the *tricolor* type with bright yellow under tail coverts, such as those recorded from near Ngaoundere and from Lolodorf by Bannerman (1951, Bds. Trop. West Afr., **8**: 382), might be considered an argument for keeping *tricolor* and *barbatus* as species. However, another interpretation of this occasional occurrence of individuals resembling one subspecies within the range of another is that it is a case of extreme variation of the local population (Rand, 1948, Auk, **65**: 416), a view that is adopted here.

Pycnonotus barbatus gabonensis Sharpe, 1871

This name I restrict to the birds with pale yellow under tail coverts, more or less half way between the faintly yellow-tinged white under tail coverts of *nigeriae* and the bright yellow ones of *tricolor*. Except for the under tail coverts these three forms are very similar. Birds that show such an intermediate condition are represented in our collection from the following localities:

Cameroon: Sangmelima, 2; Yokadouma, 4.

Gabon: Fernan Vaz, 4.

Though the southeastern Cameroon birds are more yellowish than most *nigeriae* specimens, they are not as yellow as exact intermediates would be. Of the four Fernan Vaz birds one is an exact intermediate *nigeriae* × *tricolor*, one is nearly typical *nigeriae*, and the other two fall between. This suggests that southeastern Cameroon and parts of northwestern Gabon are on the north and west edge of the band of direct intergradation of *tricolor–nigeriae*. Its southern extent is probably in extreme southwestern French Middle Congo (between Brazzaville and Dolisie; *see* Malbrant and Maclatchy, 1949, Faune de L'Equat. Afr. Franc., **1**, Oiseau, p. 301). That this is a narrow band is indicated by the fact that our Middle Congo specimens from Impfondo, Gamboma, and Djambala are typical *tricolor*, and those from central and southern Gabon (Mouila, Labamba, M'Bigou, Tchibanga) are nearly typical *nigeriae*.

Its range is thus central coastal Gabon and from extreme southern French Congo to extreme southeastern Cameroon.

Our specimens suggest that this area is not characterized by a uniformly intermediate but by a highly variable population perhaps better considered a mixed population resulting from the hybridization of two species, *tricolor* and *barbatus*. However, *nigeriae* is also an *inornatus–tricolor* intergrade in characters other than the under

tail coverts; it has the dark general color of *tricolor* and a tinge of yellow on the under tail coverts, both tendencies toward *tricolor*, and it seems best to consider *gabonensis* as another population intermediate between subspecies.

The name *gabonensis* is thus applied to an intermediate population, as intended by Sharpe in his original description.

Pycnonotus barbatus tricolor Hartlaub, 1862

This race differs sharply from all those preceding in having the under tail coverts bright yellow. Otherwise it is very similar in color and size to *P. b. gabonensis* and *nigeriae*, with which it intergrades over a long narrow area in Gabon, as discussed under *gabonensis*.

The range is from northern South West Africa (an old record only) and southern Angola to the French Middle Congo, the Central Congo basin, Kivu Highlands, southern Uganda, eastern shore of Lake Tanganyika, western Tanganyika, and northern Northern Rhodesia. The type locality was restricted to northern Angola by Zedlitz in 1916.

As mentioned above, this race intergrades on the northwest with *gabonensis;* on the north it intergrades over a large area with *minor;* to the east it intergrades with the small black-headed *micrus*, through populations that look like *fayi;* to the east and south it intergrades with the black-headed races *micrus* and *layardi*, through populations that look like *fayi*, and through *ngamii*.

The following four names are synonyms:

Pycnonotus tricolor tanganjicae Reichenow, 1911, from the north end of Lake Tanganyika (see Chapin, 1953, Bull. Amer. Mus. Nat. Hist., **75A**: 150).

P. b. harterti Zedlitz, 1916, Jour. f. Orn., **64**: 71; type locality Huilla, Mossamedes; described as like *tricolor* but larger; forehead and top of head darker; under wing coverts more brownish-tinged; wing, ♂ 104–105; ♀ 96–102 (*tricolor* wing, ♂ 92–99; ♀ 88–90 mm.); range, Mossamedes and Benguella, intergrading with *tricolor* farther north.

Sclater and Praed (Ibis, 1918, p. 698) refer this form to the *nigricans* group, saying that it has an eye wattle, though the feature is not as pronounced as in *nigricans*. Roberts (1935, Ann. Trans. Mus., **16**: 130) says it is a race of *tricolor*.

Apparently both species occur in southern Angola. Hartert (1906, Nov. Zool., **13**: 391) recorded *nigricans* with bright eye wat-

tles from Benguella, whence he also recorded two specimens with bare, protruding, but dark eyelids; and I have examined specimens of *tricolor* from Mossamedes.

There seems little reason to doubt that the name *harterti* was actually based on specimens of the species *tricolor*, and Gyldenstolpe (1924, Kungl. Sv. Vetenskaps. Handl., (3), **1**, no. 3, p. 190), who examined the type series, referred them to *P. tricolor* [=*barbatus*] *harterti*, rather than *nigricans*.

For comparison I have the following specimens: Mossamedes (Capelongo), 4; Benguella, 6 (Dondi, 4, Chitau, 2) and Loanda, 6 (Golunga-Alta, 4, Luanda, 2). Measurements: wing, Mossamedes ♂ 100, 103; ♀ 99, 101; Benguella ♂ 95, 99; ♀ 93, 96, 97, 99; Loanda ♂ 93, 93, 96, 97, 97; ♀ 93. It is true that the southern birds are slightly larger, but the difference is hardly distinctive. In color one of the four Capelongo birds has a slightly more blackish crown than do any of the Loanda birds, but the other three do not. I find the under wing coverts a variable character.

One might have expected *harterti* to refer to an intermediate *tricolor-layardi* population like *ngamii*, but it is so close to northern Angola *tricolor* that it seems inadvisable to separate this population from *tricolor*.

Pycnonotus tricolor vaughanjonesi White, Ibis, 1944, p. 146; type locality, Mwinilunga, Northern Rhodesia; described as differing from *P. t. tricolor* in having the fore part of the crown much more blackish and in being distinctly larger (wing, ♂ 96–104; ♀ 88–100). It was said to be much more similar to *tricolor* than to *ngamii*. Its range was given as the Mwinilunga district of Northern Rhodesia and northwest to the Katanga at Musonoie.

Pycnonotus tricolor limes Horniman, 1956, Ann. Mag. Nat. Hist., **9**, ser. 12, p. 366—Mwinilunga, Northern Rhodesia. Apparently this was described in ignorance of *P. b. vaughanjonesi*.

We have, of birds referred to this race, one topotype and two from Musonoie (wing, ♂ 99, 102; ♀ 96). In color I cannot see that they differ from many specimens of *tricolor* from Angola and the Middle Congo. Their slightly larger size is equaled by birds from other parts of the range of *tricolor*.

However, that this general area is in the northern edge of the area of intergradation of *tricolor-ngamii* is shown by specimens from Ndola (which I refer to *ngamii*) and from Kasempa and Balovale (which are intermediate but which I refer to *tricolor*).

Specimens examined.—Angola, 12 (Mossamedes, 4 [AMNH]; Benguella, 6 [+2 AMNH]; Loanda, 6). French Middle Congo, 9 (Djambala, Gamboma, Impfondo). Belgian Congo, 7 (Katobwe, Kabengera, Magira, Musonoie). Northern Rhodesia, 6 (Balovale, 2; Kasempa, 2; Mwinilunga, 2). Uganda, 16 (Kigezi, 1; Toro, 8; Semliki Valley, 7).

Wing measurements are as follows:

Angola: Mossamedes, ♂ 100, 103; ♀ (?) 99, 101; Benguella, ♂ 95, 99; ♀ 93, 96, 97, 98, 99; Loanda, ♂ 93, 93, 96, 97, 97; ♀ 93, 93.

French Middle Congo: ♂ 95, 95, 96, 99, 101; ♀ 87, 87, 90, 91.

Belgian Congo: Haut Luapula, ♀ 91, 92, 93; Musonoie, ♂ 102; ♀ 97.

Uganda: Kigezi, ♂ 91; Toro, ♂ 93, 97, 98, 100; ♀ 89, 91, 91, 91; Semliki Valley, ♂ 95, 97, 97; ♀ 89, 89, 92 mm.

Pycnonotus barbatus minor Heuglin, 1869

This race is fairly distinct when Sudan birds are compared with *tricolor* from Angola, being slightly paler and more grayish above and paler on the breast. The sometimes quoted smaller size is not evident (see measurements). It intergrades with *tricolor* over a broad area, so that the outlining of ranges where they intergrade is arbitrary. The type locality is the upper White Nile and birds from as far south as Lake Victoria, Lake Edward, Stanleyville, and extreme southeastern Cameroon are referred here. The range thus is from the southern Sudan and Dafur to southeastern Cameroon, northern Congo, and northern Uganda.

Besides intergrading with *tricolor* to the south, this race intergrades with *fayi* to the east. Birds from the Mount Elgon area show a definite approach to the larger, darker *fayi*. Intergradation with the white-vented forms to the north has not been recorded.

Synonyms are:

Pycnonotus layardi phaeocephalus Mearns, Smiths. Misc. Coll., **56,** no. 20, p. 8, 1911; type locality, Kikandwa, Uganda.

This name was applied to the population that lies between Lake Victoria and Lake Albert. It averages slightly larger than *minor* of the Sudan and is slightly larger than some populations of *tricolor*. It represents an intergrade between *minor* and *tricolor* and, especially in size, with *fayi* to the east. But the slight average differences do not necessitate a name for the population. Of course this name could almost equally well be considered a synonym of *tricolor*.

Pycnonotus barbatus escherichi Grote, 1922, Jour. f. Orn., **70**: 485; type locality, Kumbe, eastern Cameroon [=northern Middle Congo, 4° 36′ N., 16° 14′ E., according to Times *Atlas*]; described as very like *tricolor* but with grayish brown (not white or grayish white) under wing coverts; and as differing from the very similar *minor* in having a browner crown; wing, 95–97 mm. I have two specimens from the Cameroon border just west of the type locality (Yokadouma and Garoua Boulai) which I cannot separate from Uganda *minor*. Though Sclater (1930, Syst. Av. Aethiop., p. 371) recognized it, I agree with Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 147), and Bannerman and Bates (Ibis, 1926, p. 796) in considering it a synonym of the *tricolor-minor* intergrade.

Specimens examined.—Uganda, 22 (Mount Elgon area, 4; Busoga, 2; Mengo, 7; Entebbe area, 6; Bunyoro, 3); Sudan, 17 (Torit); French Cameroon, 2 (Yokadouma and Garoua Boulai).

Wing measurements are as follows:

Uganda: Mount Elgon area, ♂ 100, 101; ♀ 93, 94. Busoga, ♂ 97; ♀ 92. Mengo, ♂ 90, 96, 98, 98; ♀ 91, 92. Entebbe area, ♂ 90, 91, 91, 97, 98. Bunyoro, ♂ 96, 98; ♀ 90.

Anglo-Egyptian Sudan: Torit, ♂ 85, 87, 89, 94, 95, 96; ♀ 89, 90, 90, 91, 92, 95, 97.

Cameroon: ♂ 97; ♀ 93.

Pycnonotus barbatus spurius Reichenow, 1905

Sclater (1930, Syst. Av. Aethiop., p. 370) considered this name a synonym of *P. dodsoni*, and Friedmann (1937, Bull. U. S. Nat. Mus., **153**: 109) considered it applicable to the race near *dodsoni*, which I interpret as *P. b. peasei*. Hartert (1906, Nov. Zool., **13**: 391) and Benson (1946, Ibis, p. 45), however, show that a bird of the *tricolor* group occurs in southern Abyssinia and while the original description is scant, the name *spurius* applies to this *tricolor*-like bird, with which conclusion I agree.

Our specimens are very definitely of the *tricolor* group. They are like *fayi*, but with head black (not brownish), and throat more extensively dark, and blackish (not brownish). As Reichenow stated in his original description, it is black-headed like *layardi* but the black of the throat is more extensive. Also the upper parts are darker than in *layardi*.

Measurements: Wing, ♂ 95, 96; ♀ 91, 92. Tail, ♂ 87, 90; ♀ 83, 85. Culmen, ♂ 19.5, 20; ♀ 18.5, 19 mm.

Our specimens come from Gedel Mountains (about 6° 50′ N., 39° 5′ E.) and Alghe (about 5° 30′ N., 38° 20′ E.) in southern Abyssinia at 6000 to 8500 feet altitude. The three Gedel birds are very similar in color. The two Alghe birds differ slightly in the direction of the very different *peasei* (the *dodsoni-tricolor* group intermediate) in having a trace of a pale fleck back of the auriculars and a slight tendency, toward the lower edge of the dark breast, to break up into streaking. However, this tendency is slight, though important as indicating relationship.

The type locality is the general area Ennia Gallaland, about Lat. 8° N. and Long. 42° E. The range is thus apparently a narrow band from Bale to northern Boran. Apparently it is completely isolated from that of others of the yellow-vented *tricolor* group.

The range of this race is evidently a small one, and we have records of other, quite different races from nearby; thus *schoanus* with white under tail coverts is recorded south to the Gardulla area just west and north (about Lat. 5° 40′ N., Long. 37° 30′ E.). The type locality of the mottled-breasted *dodsoni* is the Sillul River, very close to Reichenow's Ennia Gallaland; we have specimens of *dodsoni* from nearby eastern Arusi and northeastern Bale, and Benson records *peasei* from Yavello (about 5° N., 38° 10′ E.).

The close proximity of the ranges of these representatives of these three groups—*barbatus* (*schoanus* and *somaliensis*), *tricolor* (*spurius*), and *dodsoni* (*dodsoni* and *peasei*)—seems correlated with habitat, as outlined by Benson (1946, Ibis, pp. 45–47) for a region in southern Abyssinia where all three occur within an area of small radius: *spurius* is largely a bird of highland areas of higher rainfall; *peasei* a bird of juniper woods in the highland areas of lower rainfall and the "thorn scrub" of the surrounding plains; *schoanus* a bird of the "rather less arid, more luxuriant thorn" country.

Intergradation between the *tricolor* and the *barbatus* groups is not indicated in this area. But partial intergradation between the *barbatus* and the *dodsoni* groups is shown by *somaliensis* (which see above) and complete intergradation between the *tricolor* and the *dodsoni* groups is shown by *peasei* (see below).

Pycnonotus barbatus fayi Mearns, 1911

This race is only lightly characterized compared with *tricolor* and *minor* to the west. It differs from them chiefly in the more blackish crown, side of head and throat, and in the slightly larger size attained by some individuals in some areas. The under tail coverts also aver-

age slightly brighter yellow; from *spurius* this race differs in that the head is brownish black, not black, and the throat is less extensively dark, and is brownish black, not black.

This name has been used for the population of the Kenya highlands only. It intergrades gradually with the *minor–tricolor* population of Uganda, and to the east it intergrades abruptly with the quite different *dodsoni* through the race *peasei*. This race, *fayi*, is intermediate in color between the brown-headed *minor–tricolor* and the black-headed *micrus* of eastern Tanganyika. Southward there are other such intermediate populations. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 150) points out that such intermediates from Tabora, Tanganyika Territory, also resemble *fayi*.

The range should thus be extended south through central Tanganyika. Iringi birds have been referred to *fayi*, but our specimens from there are definitely black-headed, showing that *fayi* does not extend this far in Tanganyika.

Specimens examined.—Kenya: Kavirondo, 6; Nandi, 3; Burnt Forest, 1; Kericho, 5; Naivasha, 1; Nakuru, Equatorial Farm, 10; Kinangop, Aberdares, 1; Amala River, 3; Elgeyu, 1; Laikipia, 1; Embu, 1; Nairobi area, 10; Narok, 2; Doingo Narok, 3. Tanganyika Territory: Mwanza, 1.

Wing measurements are as follows:

Kenya: Kavirondo, ♂ 92, 93, 98; ♀ 94, 96. Nandi, ♂ 98, 100, 101. Burnt Forest, ♂ 96. Kericho, ♂ 92, 92, 94; ♀ 89, 90. Naivasha, ♂ 100. Nakuru, Equatorial Farm, ♂ 96, 97, 99, 99, 100, 104; ♀ 93, 93, 94, 95. Amala River, ♂ 94, 97, 98. Elgeyu, ♂ 95. Laikipia, ♂ 98. Embu, ♂ 94. Nairobi area, ♂ 92, 92, 94, 94, 96, 99; ♀ 90, 91, 92, 93, 95. Narok, ♂ 95; ♀ 89. Doingo Narok, ♂ 93, 94, 96.

Tanganyika Territory: Mwanza, ♂ 94.

Pycnonotus barbatus ngamii Ogilvie Grant, 1912

As *fayi* is the intergrade between *minor* plus the *minor–tricolor* complex and the small, black-headed *micrus* of eastern Africa, so *ngamii* is the intergrade between the brown-headed *tricolor* and the large, black-headed *layardi* of South Africa.

In appearance this race is very similar to *fayi*, differing chiefly in averaging slightly larger and slightly paler above; from *tricolor* it differs in having the upper parts slightly paler and the crown more blackish brown, contrasting more with the back. Its range is from

central northern Northern Rhodesia (Ndola) to Bechuanaland (Lake Ngami).

Our specimens from Maun are practically topotypical, coming from about 40 miles northwest of Lake Ngami.

Pycnonotus (*Loidorusa*) *tricolor annectans* Roberts, 1932, was described with type locality as the Machile River, Northern Rhodesia. White (1945, Ibis, p. 574) thinks the type more probably came from the nearby Chobe Estuary, Bechuanaland, and suggests this as the type locality. We have three specimens from Kabulabula, which is on the Chobe River, and hence these specimens are practically topotypical. Compared with the Maun specimens the slight difference in the paler back of two of the three specimens may well be due to wear, and the two small series are so similar that *annectans* must be considered a synonym of *ngamii*, as a number of authors have suggested.

Specimens from Ndola average slightly smaller than Maun birds, and the back is slightly paler, but they are otherwise very close to *ngamii*, with which I include them. Apparently Ndola is very near the northern edge of the range, for we have birds closest to *tricolor* from just to the north and west (*vaughnjonesi*=*tricolor*).

Two Balovale (western North Rhodesia) birds do not admit of definite allocation of the population; one is *tricolor*-like, with brown crown; one is more like *ngamii*, with blackish brown crown.

There is the possibility that *ngamii* ranges to western Angola and that the recorded northwestern South West African birds belong here.

Specimens examined.—Northern Rhodesia: Ndola, 10. Bechuanaland: Maun, 2; Kabulabula, 3.

Wing measurements are as follows: Ndola: ♂ 99, 100, 100, 100, 101; ♀ 94, 98; sex? 92, 94, 102. Maun: ♂ 104, 106. Kabulabula: ♂ 100, 104.

Pycnonotus barbatus layardi Gurney, 1879

This is the most southern population of the species and is characterized by a black crown (not brownish black), contrasting with the back. The size is large, but not more so than in some other more northern populations of the yellow-vented group.

Compared with *ngamii* it has a black (not brownish black) crown and more black in the sides of the head and throat.

The range is from east Cape Province (except the highland range of the next race) through Natal and Transvaal to eastern Northern Rhodesia, Nyasaland and Portuguese East Africa, intergrading over a wide area with the smaller, black-headed *micrus* to the north.

The variation in color of upper parts from series to series may be due to effects of wear and of museum age. I attach no taxonomic importance to the slightly paler back of Northern Rhodesia and Nyasaland birds, and its reported occurrence in Portuguese East African birds. The measurements given below suggest not only a decrease in size northward from Transvaal but also a decrease in size toward the coast in Natal and in Mozambique.

The name *Pycnonotus layardi pallidus* Roberts, 1912, was applied to Boror, Portuguese East African birds characterized as like *layardi* but paler and with more yellow on the abdomen, a tinge extending up the center of the breast; the brown crop sharply defined, and the throat lighter. Wing, ♂ 94, 94 mm. We have a single male from Lumbo, an area often included in the range of *pallidus* (when recognized). The yellow on the abdomen is matched by individual variation in other series. The general plumage is pale but the bird is worn. It seems advisable to consider this a name for an intergrading population between *layardi* and *micrus*, and I synonymize it with *layardi*.

Specimens examined.—Natal: Durban, 2. Transvaal: Pretoria, 2; Crocodile River, 1; Hamanskraal, 1; Newington, 4. Southern Rhodesia: Zimbabwe, 1. Northern Rhodesia: Lundazi, 4. Portuguese East Africa: Lumbo, 1.

Wing measurements: Natal: ♂ 94; ♀ 96. Transvaal: ♂ 97, 99, 100, 101, 102; ♀ 98, 94. Southern Rhodesia: ♂ 100. Northern Rhodesia: ♂ 95; sex? 94, 94. Nyasaland: ♂ 97. Portuguese East Africa: ♂ 95. Culmen: ♂ 19–21; ♀ 19.5 mm.

Pycnonotus barbatus tenebrior Clancey, 1955

This race was described (Durban Museum Nov., **4**: 207) from 5500 feet altitude, Mount Currie, near Kokstad, eastern Cape Province, and the range was outlined as the highlands of eastern Cape Province, Natal, and the Drakenberg Range in southern Basutoland. This race of higher altitudes was characterized as being darker on the upper parts, throat and flanks, and with less rich yellow under tail coverts compared with *layardi*. At the same time Clancey suggested that the coastal Pondoland and Natal populations might represent yet another race, which he refrained from naming.

Through the courtesy of Mr. Clancey I have been able to examine the type and a topotype of *tenebrior* taken in April, 1955, and four specimens of *layardi* from eastern Transvaal, taken in July and August, 1952 and 1953, to avoid the effects of foxing. At first glance the darkness of the Mount Currie birds is apparent. However, the *tenebrior* specimens, taken in April, are moulting and have some worn, faded feathers which are less different from the somewhat worn, faded feathers of the specimens of *layardi* taken in July and August. It is probable that strictly comparable material will show less difference, but it seems advisable to accept this darker, highland race.

Measurements of topotypes: ♂ wing, 102; culmen, 21, 21 mm.

Pycnonotus barbatus micrus Oberholser, 1905

This small, black-headed East African race differs from *layardi* in its average smaller size and slightly darker back.

The northern edge of its range is in the Mount Kilimanjaro area (type locality, Taveta, Kenya). Southward it intergrades in size over a wide area with *layardi* (see measurements), but the slightly darker coloration of the upper parts seems to prevail to southern Tanganyika, and to this region I extend the range. Inland this race intergrades with *P. b. tricolor*, increasing in size and with the black of the head becoming brownish, locally, at least, becoming identical with *fayi*, as in Tabora.

In addition to size, mentioned above, certain variations are noticeable in the series I refer here, notably the much darker, colder upper parts of the Iringi birds; these, however, were collected in 1952, while the Kilimanjaro birds were collected in 1920; museum age rather than geographical variation may well be the reason for the color difference. The bills of these Iringi birds also average slightly smaller than some other populations, as is also reported for Matengo highland birds.

The type locality for *micrus* is Taveta and one might expect birds from there to show some approach to the *dodsoni* type of birds, *peasei* of farther north, but our topotype is definitely of the *tricolor* group and similar to our Mount Kilimanjaro birds.

Pycnonotus tricolor naumanni Meise, 1934 (Orn. Monatsb., **42**: 116), from the Matengo highlands was described as similar to *micrus*, with a similar short bill (exposed culmen, ♂ 14–15 mm. compared with 14–15 in *micrus* and 16.5–18.5 in *layardi*) but with a longer wing (♂ 96–100, ♀ 90–94 mm.) and purer white under parts. I have

no topotypes, but on size it is evidently one of the intermediate *layardi–micrus* populations and as Iringi highlands, Mahenge, and Dar-es-Salaam birds seem best referred to *micrus*, I do the same with *naumanni*.

Specimens examined.—Kenya: Taveta, 1. Tanganyika Territory: Kilimanjaro, 4; Mount Meru, 2; Usambara, 2; Kilosa, 2; Mahenge, 1; Iringa, 4; Dar-es-Salaam, 1.

Measurements are as follows:

Kenya: sex? wing, 93; tail, 81; culmen, 19.

Tanganyika: Kilimanjaro: Wing, ♂ 89, 90, 91; ♀ 92. Tail, ♂ 78, 80, 80; ♀ 78. Culmen, ♂ 19, 19, 19; ♀ 19.5. Mount Meru: Wing, ♂ 94; ♀ 87. Tail, ♂ 81; ♀ 78. Culmen, ♂ 19; ♀ 20. Usambara: ♂ wing, 92; tail, 78; culmen, 19. Kilosa: Wing, ♂ 94, 99. Tail, 81, 85. Culmen, 20, 20.5. Mahenge: ♀ wing, 90; tail, 77; culmen 19.5. Iringa: ♀ wing, 94, 95, 95; tail, 82, 83, 83; culmen, 18, 18.5, 19. Dar-es-Salaam: ♀ wing, 91; tail, 78; culmen, 18.

Pycnonotus barbatus peasei Mearns, 1911

This race is the intergrade between *Pycnonotus b. dodsoni* and the surrounding populations: *micrus* to the south; *fayi* to the east; and *spurius*, the isolated member of the *tricolor* group of Abyssinia.

From *spurius* it differs in smaller size, the tendency toward white tips on the tail feathers, the tendency toward white spots behind the ear coverts, and the greater tendency to distinct mottling of the upper breast and more conspicuous pale edging of the back feathers.

From *fayi* it differs in a similar manner, with a greater discrepancy in size (for *fayi* is larger than *spurius*) and in the darker throat.

From *micrus* it differs in a similar manner, but with less difference in size (for *micrus* is smaller than *fayi*) and with a darker throat.

These differences are all in the direction of *P. b. dodsoni*, and *peasei* stands about half way between the *tricolor* group and the very different *dodsoni*.

The range is coastal Kenya from Sokoke to Vanga (but not inland in the Taru area where *dodsoni* takes its place); along the eastern slopes of the Kenya Highlands; and in extreme southern Abyssinia (Boran and probably eastward to southern Bale).

The Abyssinian population seems to be quite isolated and to occupy a narrow band. Benson (1946, Ibis, p. 46) showed that it occupies a habitat different from that of *spurius*. He recorded *spurius* at Alghe; *peasei* at Yavello, about 45 miles south, and then

south to near Mega, another 65 miles. Friedmann recorded *peasei* (under the name *spurius;* see Benson, 1946, Ibis, p. 46) from nearby Sagon River, Tertale and Bodessa. The Kenya border is about 25 miles south of Mega and *dodsoni* ranges just north of the border at Yebo and Chaffa to the west and to the border just east at Moyale. Thus the range of *peasei* here may not be much more than 100 miles wide. Its east-west extension may extend the length of the contact of *spurius* and *dodsoni.*

The population of the Kenya Highland slopes extends at least from the Mount Kenya area (North Waso Nyiro, Archer's Post) to the upper Athi River. One would expect at least a tenuous connection with the coastal Kenya population, but birds from the Kilimanjaro area and Taveta are definitely *micrus* of more southern range, while *dodsoni* of the Kenya lowlands extends south to the Chyulu Hills and Tsavo, less than 60 miles away. Thus *peasei,* if it exists in this area, does so in this very narrow belt. The Kenya coastal belt of this species may also occupy a narrow range, for the localities are all near the coast.

In the coastal Kenya population the variation is only moderate. The narrow white tip to the tail feathers is present and up to 3 mm. wide in about half of the specimens. In a few specimens it is indicated only by a pale gray tip; in nearly half of the specimens the tail is worn so that the original presence or absence of a white tip cannot be determined. The distinctiveness of the white fleck back of the ear coverts, the mottling of the breast, and the scaling of the back vary somewhat, but not excessively.

The three specimens from Athi and Kaite Rivers are at the lower limit of size of the coastal Kenya series but fall within its range of variation in color. The two Abyssinia (Yavello) specimens are at the upper limit of size of the coastal Kenya series, but also fall within its range of color variation. It should be noted here that two specimens of *spurius* from Alghe in Abyssinia, not far north of Yavello, show a slight tendency toward *peasei.*

I have one series of birds, those from the North Waso Nyiro and from Archer's Post, whose allocation to *peasei* or to *dodsoni* seems doubtful. In size they fit better with *peasei,* and in color certain specimens are very similar to average *peasei,* but other specimens show characters that approach those of *dodsoni.* This population definitely bridges the gap between the two and could be referred to either form. Tentatively I place it here.

Sclater synonymizes *littoralis* van Someren with *micrus.* The name *Pycnonotus dodsoni littoralis* van Someren (1923, Bull. Brit.

Orn. Cl., **43**: 153), type locality Changamwe, near Mombasa, was proposed for the coastal population of *peasei*. The specimens I have examined and commented on above included two topotypes. "*littoralis*" is no closer to *micrus* than it is to *dodsoni*, and I see no reason, except the inconclusive one of geography, for separating it from *peasei*. That *peasei* is the intergrade between the *tricolor* group and *dodsoni* is indicated by material from all the localities listed, except that from the Sokoke-Mongeya area, where it indicates that *peasei* and *dodsoni* should be considered species. This is discussed under *dodsoni*.

A case could be made for giving separate individual names to each of the three separate populations I include here in *peasei*. *P. b. littoralis* van Someren is available for the coastal Kenya bird which is presumably the *dodsoni-micrus* intergrade; *peasei* would be the name for the *dodsoni-fayi* intergrade on the slopes of the Kenya highlands; and a new name would be needed for the *dodsoni-spurius* intergrade of southern Abyssinia. However, this would be bestowing names on populations that are externally indistinguishable, and I think it better to group them under one name, which stresses their common origin in *dodsoni*.

Specimens examined.—Abyssinia: Yavello, 2. Kenya: North Waso Nyiro, 5; Archer's Post, 1; Upper Athi River, 2; Kaite River, Ukamba, 1; Shimba Hills, Vanga, 1; Ganda, 6; Changamwe, 2; Mombasa, 5; Rabai, 8; Sokoke Forest, 8; Mongeya Hills, 4.

Measurements are as follows:

Abyssinia: Wing, ♂ 93; ♀ 88. Tail, ♂ 78; ♀ 76. Culmen, ♂ 18; ♀ 18.

Kenya: Athi and Kaite Rivers: Wing, ♀ 79, 80, 82. Tail, ♀ 68, 71, 72. Culmen, ♀ 17, 17, 18. Archer's Post: ♂ wing, 80; tail, 70; culmen, 18. North Waso Nyiro: Wing, ♂ 85, 89, 89; ♀ 81, 83. Tail, ♂ 71, 75, 76; ♀ 67, 68. Culmen, ♂ 17.5, 18, 18; ♀ 17, 17. Kenya coastal area: Wing, ♂ (19) 82–92 (av. 86.1); ♀ (10) 82–88 (av. 85.2). Tail, ♂ (20) 68–79 (av. 73.5); ♀ (10) 71–78 (av. 73.6). Culmen, ♂ (20) 17.5–20 (av. 18.3); ♀ (10) 17–18 (av. 17.6).

Pycnonotus barbatus dodsoni Sharpe, 1895

Differs from *peasei* in smaller size, in the more conspicuous white fleck behind the ear coverts, in the more distinct mottling of the breast, the more distinct pale edges of the back feathers, and the larger white tip to the tail feathers.

Its range is Italian Somaliland (Higleleh, in the Haud of Ogaden country) and eastern Abyssinia from parts of the upper Webi Shebeli River (Sillul, Lammo, Dada Uebi) southward over the lowlands of Kenya on the coast to Kipini area and inland in the southeast to Sokoke, Tsavo, and Chyulu Hills, and westward to Lake Rudolf, extending into extreme southern Abyssinia at Yebo and Chaffa (Friedmann, 1937, Bull. U. S. Nat. Mus., **153**: 108).

The range is usually given to include British Somaliland. This seems based on Elliot's record of two specimens collected at Hullier. Elliot also collected one specimen at Higleleh, Ogaden, and says that since Dr. Smith collected it at Lamoo [=Lammo] it would seem to go to the coast also.

There are two errors here. First, while Elliot's Higleleh specimen is the yellow-vented *dodsoni*, the two Hullier birds are the white-vented *somaliensis;* secondly, Smith's locality, Lammo, is not on the coast but is a river near the type locality, Sillul.

The populations included here are not all uniform. The Juba River and the Sokoke area birds are smallest and have the subspecific characters most pronounced, though the Juba River birds are slightly paler. Lamu and Kipini birds average larger but are otherwise similar; Marsabit birds also average larger, and perhaps a shade duller and darker than any of the above, showing a very slight tendency toward *peasei;* one of the two Tsavo birds is also large but agrees in color with Sokoke birds. The two Chyulu birds are also large and are slightly darker, less brownish than Sokoke and Tsavo skins, but very similar to Marsabit birds. In fairly fresh plumage the Chyulu birds have the scaling of the back slightly less distinct and the mottling of the breast slightly less plentiful than in Juba–Sokoke birds, a tendency toward *peasei*, but the white tips to the tail feathers are well developed and the birds are more like *dodsoni* than *peasei*. The Higleleh bird is in fairly fresh plumage and agrees well with Juba River birds in color and size.

The name *P. b. chyulu* van Someren, 1939, was given to birds from the Chyulu Hills on the basis of darker general color and paler yellow under tail coverts. The color of the under tail coverts of our two topotypes is not as deep as in some other birds but falls within the range of variation of several series. The slightly darker color has been mentioned above.

Pycnonotus dodsoni teitensis van Someren, 1922, was applied to Tsavo birds on the basis of their being larger than *dodsoni*. While our two topotypes are somewhat large, the differences are not great,

and this type of difference, similar but of larger size, occurs in at least three other populations—Marsabit, southern Abyssinia, and the Lamu-Kipini area—making nomenclatural treatment impossible.

I have treated *dodsoni* as conspecific with the *tricolor* group because in southern Abyssinia and on the slopes of the Kenya highlands there are populations (*peasei*) that are intermediate between the two, geographically and morphologically. Another similar population occurs on the Kenya coast, from Vanga to Sokoke. However, from Sokoke and the nearby Mongeya Hill I have a series that is obviously *dodsoni*, and another series that is just as obviously *peasei*. The range of variation in each series is not great and though overlap is not quite complete it is approached. Two entities seem involved. That *peasei* is the more common, widespread form is indicated by its being represented in our series by several collections made in several years (1920, 1921, 1924, 1932), while that *dodsoni* is the more restricted, though also common, form is indicated by the fact that the series was all collected in one trip, in 1921. This suggests that where desert scrub meets coastal forest the two races may come close together (as *peasei* and *spurius* and *dodsoni* do in southern Abyssinia; see under *peasei*) and wide-ranging native collectors may have brought together subspecies from two areas.

Two lines of nomenclatural treatment are thus open: On the basis of these two series labeled from the same locality, to ignore the evidence of intergradation of *dodsoni* and the *tricolor* group through *peasei* and keep *dodsoni* a separate species, calling *peasei* a species hybrid (and ignoring also the tendency toward intergradation of *dodsoni* with the *barbatus* group through *somaliensis*); or, accepting the demonstrated intergradation, to call *dodsoni* a subspecies and postulate that further field work will show that *peasei* and *dodsoni* do not actually live in the same areas in the Sokoke-Mongeya area but are separated ecologically at least. This is the view adopted here.

Specimens examined.—Kenya: Tsavo, 2; Chyulu Hills, 2; Sokoke Forest, 12; Kipini area, 4; Lamu Island, 1; Wajir, 2; Moyale, 2; Marsabit, 15; Juba River (Serenli and Mandaira), 12. Abyssinia: Higleleh in Haud, 8.30 N., 40.30 E., 1.

Measurements are as follows:

Kenya: Tsavo: Wing, ♂ 88; ♀ 77. Tail, ♂ 76; ♀ 65. Culmen, ♂ 18; ♀ 16.5. Chyulu: Wing, ♂ 83; ♀ 85. Tail, ♂ 73; ♀ 74. Culmen, ♂ 17; ♀ 18. Sokoke Forest and Mongeya Hill: Wing, ♂ 76, 77, 78; ♀ (9) 71–80 (av. 75.8). Tail, ♂ 60, 60, 64; ♀ (8) 63–66 (av. 64.3). Culmen, ♂ 16.5, 16.5, 17; ♀ (9) 15–17 (av. 16.4).

Lamu and Kipini: ♂ wing, 80, 80, 81, 84, 85; tail, 70, 70, 71, 72; culmen, 16, 18, 18, 18, 19. Wajir: ♀ wing, 77, 80; tail, 64, 67; culmen, 15, 16. Moyale: Wing, ♂ 83; ♀ 81. Tail, ♂ 69; ♀ 68. Culmen, ♂ 18; ♀ 16.5. Marsabit: Wing, ♂ 77, 82, 82, 83, 84, 85, 85, 86, 86; ♀ 80, 80, 81, 81, 81, 82. Tail, ♂ 68, 68, 69, 70, 70, 70, 71, 73; ♀ 66, 67, 67, 68, 68, 70. Culmen, ♂ 17, 17.5, 17.5, 18, 18, 18, 18.5; ♀ 16, 16, 17, 17, 17, 18. Juba River: Wing, ♂ 75, 79, 80, 80, 81, 82, 82; ♀ 74, 75, 75, 76, 77. Tail, ♂ 67, 67, 69, 69, 69, 70, 72; ♀ 64, 65, 65, 66, 67. Culmen, ♂ 16, 16, 16.5, 16.5, 16.5, 17, 17; ♀ 15, 15, 15.

Abyssinia: Highleleh: ♀ wing, 75; tail, 65; culmen, 17.

Pycnonotus masukuensis Shelly

This is an East African bird with a scattered distribution on a few mountain masses from Kenya and the eastern Congo to Nyasaland. The abundance of the species varies greatly with the locality. In western Kenya it is a very rare bird (Jackson and Sclater, 1938, Birds of Kenya . . . , p. 864), but in the Usambara Mountains it is evidently very common (Friedmann and Loveridge, 1937, Bull. Mus. Comp. Zool., **81**: 235, 236) and also in Iringa highlands, judging by our series of 11 specimens collected in seven days.

The representatives at each end of the range look rather different: *kakamegae* from Kenya has a gray throat and sides of head and a darker gray crown; *masukuensis* of Nyasaland is nearly all greenish. Friedmann and Loveridge (loc. cit.) have even suggested that they are not conspecific. However, birds from intermediate localities bridge some of the differences and there seems no reason why they should not be considered conspecific.

Pycnonotus masukuensis kakamegae Sharpe, 1900

Known from western Kenya and eastern Ituri Forest (Chapin, 1953, Bull. Amer. Mus. Nat. Hist., **75A**: 118), and Moreau writes me that in the British Museum there are specimens from Mabali Mountains, South Kigoma, western Tanganyika Territory, taken at 6000 feet. A greenish bird with throat, side of face and eye ring pale gray; crown and nape dark gray; gray ear coverts lightly streaked with whitish. In many ways a smaller, duller replica of *P. tephrolaemus kikuyuensis*.

We have one specimen from Kakamega Forest, hence topotypical: ♀ wing, 82; culmen, 15 mm.

Pycnonotus masukuensis roehli Reichenow, 1905

This race has generally been considered to be restricted to the Usambara Mountains and the Uluguru Mountains (Friedmann and Loveridge, 1937, Bull. Mus. Comp. Zool., **81**: 235), though Lynes (1934, Jour. f. Orn., **82**: 75) has already recorded three Dabaga (Iringa) birds as *roehli* after comparing them with four topotypes, and Moreau (1947, Ibis, p. 230) extends the range to Songea, Matengo highlands. Bangs and Loveridge (1933, Bull. Mus. Comp. Zool., **75**: 187), on the other hand, had specimens from Iringi District (Kigogo, Uzungwe Mountains) and from Rungwe District (Madehani, Ukinga Mountains and Nkuka Forest, Rungwe Mountains) and referred them all to *P. m. masukuensis*.

I have six specimens from the Usambara Mountains, three from the Uluguru Mountains, and eleven from the Iringa Highlands. They differ from our single specimen of the preceding race in the more greenish gray crown and cheeks and the less extensive gray throat; in the clearer green, less olive green back, and the much more grayish green, not olive green under parts. As such it is a rather distinct race.

The populations are not identical, however, as the above examples of their earlier taxonomic treatment suggest. The Usambara birds have the grayest heads, the darkest green backs, and the grayest green under parts. Uluguru birds are similar but are slightly brighter green above and have the crown slightly paler, greener gray. The Iringa birds are still brighter green above, with more of a greenish wash on breast and abdomen and with more greenish in the grayish crown.

It could be argued that the Iringa birds are entitled to separate subspecies rank, as an "island" population with average, though overlapping differences. However, they definitely represent a tendency toward the next race, *P. m. masukuensis*, but are not yet half way to it, and are adequately separable from the other two races by the above diagnosis. It seems inadvisable to separate them and then bring up the question of separating the Uluguru birds from the Usambara birds, etc.

There is no difference in size between the populations: Wing, ♂ (10), 82–87 (av. 85.1); ♀ (6), 80–83 (av. 81.6). Tail, ♂ (10), 79–84 (av. 81.7); ♀ (6), 77–84 (av. 79.8). Culmen from base, ♂ 15–17; ♀ 15–16.5 mm.

Pycnonotus masukuensis masukuensis Shelley, 1897

The race of the Masuku Mountains of Nyasaland (type locality) and the mountains of the Rungwe District of Tanganyika Territory.

I have seen no topotypical birds and assume that they are similar to Rungwe birds, of which we have six.

A well-defined race, lacking the gray on the head; the crown green, almost concolorous with the back; the side of the head olive green, and the whole under parts pale yellowish olive (not gray washed with greenish), slightly darker on the breast and paler on the throat.

Measurements: Wing, ♂ 84, 86; ♀ 81, 81, 81, 81. Tail, ♂ 78, 82; ♀ 76, 76, 78, 80. Culmen, ♂ 16, 16; ♀ 15.5–16 mm.

White (1944, Ibis, p. 553) has shown that there is no valid Northern Rhodesia record.

Pycnonotus montanus Reichenow, 1892

I have not seen this species. Bannerman (1936, Bds. Trop. W. Afr., **4**: 184) has examined the type of this and of *concolor* Bates, 1926, and considers the latter a synonym. Only these two specimens were known until Serle (1950, Ibis, p. 375) collected additional specimens in the Cameroon Highlands. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 118) considers that it may be a close ally of *P. masukuensis*, after which I place it.

Pycnonotus virens Cassin

The most recent reviews, by Rand (1951, Fieldiana: Zool., **32**: 609) and Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 109), show several points of disagreement on the way in which this species should be split.

The receipt of additional material in Chicago Natural History Museum allows the clarification of some points.

The species can be easily divided into three rather distinct sections:

1. Upper Guinea: *erythropterus;* dark back and grayish olive under parts.

2. Lower Guinea to Uganda: *virens* + *holochlorus;* back paler and greener; under parts yellower.

3. Nyasaland to Kilimanjaro: *zombensis* + *marwitzi* + *shimba* (and probably *zanzibaricus*, which I have not seen); like (2) but under parts paler.

How much farther to go is in part a subjective thing. I recognize *P. v. holochlorus* (contra Chapin) for reasons already given (1951, loc. cit.). The average larger size of Angola birds is not great enough to use taxonomically, as Chapin says. Our series of Gabon specimens (practically topotypical *P. v. virens*) measures: wing, ♂ (7) 76–81; ♀ (10) 70–75; tail, ♂ 70–75, ♀ 62–70. Our Angola birds measure: wing, ♂ 78–83; tail, ♂ 70–77 mm.

Of the third group I have seen no *zanzibaricus*. I have recently received specimens from Rhodesia and the Uluguru Mountains to compare with our Usambara, Kilimanjaro and Ganda specimens. In 1951 I followed Grant and Mackworth-Praed in grouping all these as *zombensis*. Chapin tentatively recognized *marwitzi* and *shimba*.

Measurements of this material are as follows:

Kenya: Ganda: Wing, ♂ 81; ♀ 76. Tail, ♂ 78; ♀ 73.

Tanganyika: Kilimanjaro–Amani area: Wing, ♂ 76, 80, 81, 81, 82, 84, 86; ♀ 80, 80. Tail, ♂ 74, 75, 78, 78, 79, 80; ♀ 74, 75. Uluguru Mountains: ♂ wing, 85; tail, 79.

Northern Rhodesia: ♀ wing, 86; tail, 77. Sex? wing, 85, 87, 87, 87.5, 88, 90; tail, 78, 79, 79, 79, 80, 80, 82.

This shows that southern birds average slightly larger than do northern ones.

On color I am unable to see differences between the Kilimanjaro (topotypical *marwitzi*), Amani, and Ganda birds, and the Ganda birds (topotypical *shimba*, for which the original description gave wing 76–81) are not smaller.

The more southern birds (Uluguru and Rhodesia), *zombensis*, type locality, Nyasaland, are very similar to the above on the under parts. On the upper parts the back and especially the crown are slightly more clear greenish olive, less brownish olive, the tail is darker olive brown, and the wing coverts and outer edges of the wing coverts show the most difference, being greener, less brownish olive.

The southern birds are more variable than the northern in characters. The Uluguru bird is as greenish as the greenest Rhodesia bird and these stand out rather distinctly from the northern birds.

From this it can be seen that *shimba* is a synonym of *marwitzi*, but that *marwitzi* is a lightly differentiated southern race compared with *zombensis*.

Pycnonotus gracilis gracilis Cabanis

Since discussing this species (Rand, 1951, Fieldiana: Zool., **32**: 613) I have received five specimens from Gabon and one from the

French Middle Congo. Compared with Cameroon specimens they are just as dark but average slightly less brownish on the flanks and less brownish olive above. The difference in the color of the upper parts is probably largely due to foxing of the browner specimens, but there seems a slight geographical variation in the Gabon birds, which average greener. There is considerable overlap in this, and the difference is not great enough to be of taxonomic importance. This difference is not an approach to the paler eastern race *ugandae*.

Pycnonotus ansorgei Hartert

I have already commented on this species (1951, Fieldiana: Zool., **32**: 617) but have since seen additional specimens from lower Guinea and also topotypical specimens from southern Nigeria.

Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 107) has summarized what we know about the habits of this bird that is so puzzlingly like *P. gracilis* in both appearance and habits.

Pycnonotus ansorgei ansorgei Hartert, 1907

The type locality is Degama, southern Nigeria. *P. muniensis* Grote, 1924, type locality Akonangi, Spanish Guinea, I now consider a synonym. Chapin (loc. cit.) called Congo birds *muniensis* but points out that there is no difference in size and says that between upper Congo birds and topotypical *ansorgei* "any difference in color is hard to see."

White (1956, Bull. Brit. Orn. Cl., **76**: 157) has compared nine Owerri birds with seven from Cameroons to upper Congo, and finds the latter less rusty, colder and grayer—a tendency toward *P. a. kavirondensis* van Someren but with not great enough difference to recognize any subspecies.

In the material before me the Gabon and Cameroon specimens are somewhat variable but agree among themselves and differ from four Degama (topotypical) specimens of *P. a. ansorgei* collected in 1902 in having the upper parts, especially the crown, averaging darker. On the under parts, Gabon and Cameroon birds average more gray on the breast and have the flanks browner. The under tail coverts vary. The Gabon bird has them darker brownish; one of the Cameroon birds has them pale olive brown, while the other specimens show various stages of intermediacy between these extremes. By contrast the four Nigeria birds all have the under tail coverts rather pale buffy olive. There is further pronounced varia-

tion in this series: the Gabon bird is slightly greener above on crown and back; and one of the Cameroon birds, from Lolodorf, approaches closely in color the specimens from Nigeria.

Size, mentioned in the original description of *muniensis*, does not seem diagnostic (see measurements).

It seems impractical to recognize any subspecies in lower Guinea. White (loc. cit.) also records this subspecies from Sierra Leone (York Pass and Bintumane Peak).

Specimens examined.—Gabon, 1 (Mimongo-Poingi). Cameron, 5 (Sangmelima, Lolodorf, Kum, Nkol Enyeng). Nigeria, 4 (Degama, AMNH).

Measurements are as follows:

Gabon: sex? wing, 68; tail, 61; culmen, 15.5.

Cameroon: Wing, ♂ 73, 75, 80; ♀ 73. Tail, ♂ 65, 66; ♀ 60. Culmen, ♂ 16–17 mm.

Nigeria (Degama): Wing, ♂ 72, 75; ♀ 68, 69. Tail, ♂ 60, 62; ♀ 58, –. Culmen, ♂ 16, 16; ♀ 16, 16 mm.

Pycnonotus curvirostris curvirostris Cassin

The slight difference between eastern and western populations in color in *Pycnonotus c. curvirostris* is considered not of taxonomic value (Rand, 1951, Fieldiana: Zool., **32**: 618), and Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 105) does not consider the slightly longer tails of Angola birds as worthy of nomenclatural treatment. Our series from Cameroon measures: Wing, ♂ 78–83; ♀ 75. Tail, ♂ 66–74; ♀ 72. The specimens from Angola measure: Wing, ♂ 80–85. Tail, ♂ 73–81 mm.

Pycnonotus importunus Vieillot

The grayish-greenish South African *Pycnonotus importunus* and the yellowish green East African *insularis* have been kept as two species by such authors as Sclater (1930, Syst. Av. Aethiop., p. 393), Friedmann (1937, Bull. U. S. Nat. Mus., **153**: 121), and Delacour (1943, Zoologica, **28**: 23); but Roberts (1922, Ann. Transvaal Mus., **8**: 226) had already pointed out that the forms are geographical representatives, probably conspecific, a treatment followed by him in his later works and adopted by Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 108). Certainly the structure of the two groups is the same, and the race *oleaginus* is the connecting form; *importunus* Vieillot, 1815, must be used for the specific name.

The major trends in variation are: A greenish bird in the south intergrades with the yellowish-green bird of Portuguese East Africa; northward the yellow decreases in intensity, apparently gradually, with consequent difficulty of drawing subspecific lines and diversity of opinion as to the number of races to recognize. The buffy or ochraceous under wing coverts (vs. clear yellow) give another character for northern coastal birds, and the yellow eye ring in the adult for Kenya highland populations.

Pycnonotus importunus fricki Mearns, 1914

This is the race of the Kenya highlands; from Endoto Mountains (topotypical *fricki*) and from the south central area (Kitunga, 7000 feet, Thika, junction Thika and Tana Rivers [Friedmann]).

It is a yellowish-olive-green form with buffy-yellow under wing coverts and is distinguished from all the following races by having a yellow eye-ring. It may average larger also.

In reviewing this group Friedmann (1937, Bull. U. S. Nat. Mus., **153**: 121, 122) was unable to confirm the various color differences mentioned in the original description for *kitungensis* Mearns but kept it separate on the basis of its larger size (*fricki*, wing ♂ 87 mm.; *kitungensis*, ♂ 90, 91, a not very convincing difference). Sclater (1930, Syst. Av. Aethiop., p. 393) has pointed out that the two are probably not separable and in 1938 Jackson and Sclater (Bds. Kenya . . ., p. 879) remarked that until more specimens are collected, further discussion is impossible.

I have seen no specimens of this race. A yellow eye-ring appears to be a sign of immaturity in *P. i. subalaris* and *P. i. hypoxanthus*, but the four known specimens of this race have been recorded as adult by Dr. Friedmann. Friedmann (1937, op. cit., p. 122) has commented that a specimen from the Tana River, at the mouth of the Thika River, has the eye ring only faintly indicated.

Pycnonotus importunus somaliensis Reichenow, 1904

A pale form, with under wing coverts buffy yellow; no yellow eye-ring. Measurements: Wing, ♂ (10) 82–91 (av. 88.4); tail, 77–82; culmen, 18.5–20. Wing, ♀ 80; tail, 72; culmen, 17.

This is the bird from the northeast corner of the species' range, in the Juba River area (mid-Juba River and Barawa, on the coast 250 kilometers north of the mouth of the Juba).

We have a series (16 ♂, 1 ♀) from Serenli and Gebier on the Juba River.

Pycnonotus importunus subalaris Reichenow, 1903

Differs from *somaliensis* in being slightly darker, more olive on the breast and slightly yellower on the abdomen and under tail coverts.

The range is from Manda and Lamu Islands south to Vanga along coastal Kenya, and inland to the mid-Tana River (Garissa), Taveta, in Kenya, and Mount Kilimanjaro, Tanganyika Territory.

Specimens examined.—Manda Island, 2; lower Tana River (Anasa, Kiaponi, Kipini), 6; Malinda, 2; Sokoke-Mongeya area, 26; Changamwe, 3; Mombasa, 3; Rabai, 4; Tanganyika border, 500 feet altitude, 1; Samburu, 1; Taveta, 1; Mount Kilimanjaro, 1; mid-Tana (Garissa), 1.

A single specimen from Makueni, 80 miles south of Machakos in central Ukamba (altitude 3000 feet), is large (wing 94), suggesting increase in size inland. *Pycnonotus i. fricki* is also large.

Measurements of Sokoke-Mongeya birds: Wing, ♂ (10) 81–89 (av. 85.5); ♀ (10) 77–88 (av. 83.8). Tail, ♂ 74–81 (av. 77.3); ♀ 71–81 (av. 75.4). Culmen, ♂ 18–20; ♀ 17.5–19 mm.

The only immature, a male from Malinda, has a ring of yellow feathers around the eye, apparently a character of immaturity in some races of this species.

Though in series these specimens separate rather well from *somaliensis* on the characters given, there is considerable individual variation giving overlap with *somaliensis*, so that some specimens are of doubtful allocation on characters; for example, a few of the individuals from Sokoke-Mongeya area (nearly topotypical *subalaris*), and the Samburu specimen and the most northern birds, from Manda Island, show an approach to *somaliensis*. However, the birds from such peripheral localities as the lower Tana, Garissa, Taveta, and Tanganyika-Kenya border show the characters of *subalaris* more plainly. The single rather richly colored specimen from Mount Kilimanjaro (♀ wing 82 mm., which should be *kilimandjaricus* Sjöstedt, 1908; type locality Kibonoto, Kilimanjaro, 1300 meters) can be matched in color and size with specimens from the Sokoke-Mongeya area, so I consider *kilimandjaricus* a synonym of *subalaris*.

Sclater (1930, Syst. Av. Aethiop., p. 393) accepted *kilimandjaricus* as valid, and referred to Gyldenstolpe (1926, Ark. Zool., **19A**, no. 1, p. 58), who, however, through lack of material had not been able to form an opinion of its racial validity beyond saying it was very similar to *subalaris*.

Pycnonotus importunus insularis Hartlaub, 1861

Differs from *subalaris* in having the under wing yellow, not buffy or ochraceous yellow.

The range is Zanzibar and the opposite coast from Dar-es-Salaam north to Pangani River (Friedmann).

We have two Zanzibar specimens (♀, wing, 83, 88; tail, 75, 79 mm.). In body plumage one is somewhat darker and more richly colored than *subalaris*, the other in general color can be matched rather well by a number of *subalaris* specimens from Sokoke, but the difference in the under wing color is evident in both.

Vincent (1935, Ibis, p. 373) extends the range of *insularis* south through Mozambique but our two specimens from Lumbo are considerably more yellowish below than are Zanzibar examples and I do not include them with *insularis*.

Pycnonotus importunus hypoxanthus Sharpe, 1876

Differs from *insularis* in being still more yellow below. Measurements: wing, ♂ 92, ♀ 82; tail, ♂ 86, ♀ 77; culmen, ♂ 20, ♀ 17.

Its range is from southern Tanganyika Territory, through Portuguese East Africa to the Zambesi, and inland to Tete, southern Nyasaland, and Northern Rhodesia.

Vincent has shown that the Kilosa, Tanganyika Territory, record is an error (1935, Ibis, p. 374). Though he extends the range of *insularis* south through Mozambique our two specimens from Lumbo are certainly much yellower below than two topotypical (Zanzibar) *insularis* and Moreau records that Mafia Island and Mikindani, southern Tanganyika, birds are also yellower below than *insularis*, and I refer them to this form.

Specimens examined.—Lumbo, Portuguese East Africa, 4 (2 CNHM, 2 Coryndon Mem. Mus.).

One of the four specimens before me has the rounded tip of the first primary and the rather pointed tail feathers characteristic of immaturity in this group. It also has a very narrow ring of yellow feathers encircling the eye. The only other immature in the series of more than 70 specimens of this species that I have seen (a male of *subalaris* from Malindi, Kenya) also has a similar yellow eye ring. Presumably in most races it is an immature character which appears in the adult in *fricki*.

Pycnonotus importunus oleaginus Peters, 1868

This race is the connecting link between the yellowish forms of the *insularis* group to the north, and the green and grayish *importunus* to the south. It differs from *hypoxanthus* in being greener above and in being considerably duller and less yellowish below (♂ wing, 86, 90; tail, 89; culmen, 18, 18; tarsus, 22 mm.).

The range is northeast Zululand and Portuguese East Africa south of the Zambesi mouth (Clancey).

Grant and Mackworth-Praed (1948, Bull. Brit. Orn. Cl., **68**: 59) found that the bird marked as the type in the Berlin Museum is not the type, so that the allocation of the name depends on the description alone (Peters, 1868, Jour. f. Orn., **16**: 133); type locality Lorenço Marques. It reads (my translation from the Latin): an *Andropadus*, olive green, below paler, obsolete undulations, abdomen yellow green, inner edge of bend of wing, tibia, under wing citrine; rectrices 1 and 2 margined internally with a yellow fringe; iris yellow, bill and feet black; bill 19.5, wing 84, tail 87, tarsus 21 mm.

Grant and Mackworth-Praed (loc. cit.) say this description of the under parts does not apply to any bulbul adult or young but probably to some young shrike. They propose dropping this name as indeterminate. South African ornithologists have followed this course.

On the contrary, on examining the evidence, I find the agreement between the description and the bird for which the name has been used is very close, both in color, including that of the eye, and in measurements. The only discrepancy is the "obsolete undulations." Now "*obsolete undulatus*" can be variously interpreted but obviously the pattern is not very distinct and I submit that it could have been caused by a disarrangement of the feathers. In view of the many points of close agreement, and only one small, understandable discrepancy, I consider the old, widely used *oleaginus* a valid, identifiable name from the description, and *Andropadus importunus mentor* (Clancey, 1952, Ann. Natal Mus., **12**: 251; type locality Shimula's Pont, Pongola River, N. E. Zululand), which was proposed to replace it, a straight synonym.

We have no specimens in Chicago but Mr. Clancey has lent me six specimens from Kosi Bay, North East Zululand, Newington, Eastern Transvaal; Lebombo Mountains and Big Bend, Swaziland, and Manhiça, Mozambique.

Pycnonotus importunus noomei Roberts, 1917

Differs from the preceding in the great reduction of yellow on the under parts, which are grayish olive, and the darker upper parts.

Clancey (1952, Ann. Natal Mus., **12**: 251) questioned the validity of *noomei*, compared with *importunus*, but more recently he has secured additional material and this caused him to recognize two races in South Africa, but with different ranges from those given by Roberts, and after examining his material, which he kindly lent me, I agree.

Six specimens from Pondoland (Mntafufu River, Mzamba, Fossil Head) and Natal (Durban, Pietermaritzburg) belong to *noomei*, which ranges from southern Zululand inland to Transvaal and south to east Griqualand (eastern Cape).

Pycnonotus importunus importunus Vieillot, 1818

Like *noomei* but paler and more grayish olive below. Six specimens seen from Uitenhage, Albany, and Fish River Mouth, all eastern Cape.

This form seems restricted to southern and eastern Cape Province.

Pycnonotus latirostris Strickland

The two West African races have long been recognized as distinct, but the literature dealing with the East African populations contains not only diversified views as to races to be recognized, but as to their characters. The most recent reviews are by Sclater (1930, Syst. Av. Aethiop., p. 394), Friedmann (1937, Bull. U. S. Nat. Mus., **153**: 122), and Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 113).

Our material indicates that the four races, from Upper Guinea, Lower Guinea, Uganda, and the Kenya highlands are all fairly distinct. Confusion between the last two may have arisen through the presence of a considerable zone of overlap.

In each area from which we have large series there are a few birds that fall considerably outside of the rest of the individual variation and resemble some other race, but I do not consider them either as wanderers of another race, or as indicating that two species exist.

Pycnonotus latirostris congener Reichenow, 1897

This Upper Guinea race is quite distinct on the basis of its darker back, and especially its darker, less reddish tail. It is a small race (wing, ♂ 81, sex? 83; tail, ♂ 72, sex? 77 mm.).

Specimens examined.—CNHM, Liberia, 1; Sierra Leone, 1.

Pycnonotus latirostris latirostris Strickland, 1844

This race has the back lighter and the tail lighter, more reddish brown than *congener*. Its size is the same (♂ wing, 80–90; tail, 68–80).

Our specimens of this race are all from western Africa. The Gabon birds are slightly darker above than Cameroon birds but not different enough to separate, and northern Angola birds (Heinrich coll.) are very similar. The average larger size of Angola birds is slight (see measurements).

The name *efulenensis* Sharpe (1904, Ibis, p. 636), type locality Efulen, sounds in part as if intended for a *latirostris-congener* intergrade with darker brown tail than the former, but it is said to be based on immatures. However, our Cameroon birds (including one Efulen bird) and one Nigerian (Ondo Province) bird all seem very similar.

Specimens examined.—CNHM, Nigeria, Ondo Province, 1; Cameroon, 9; Gabon, 6; northern Angola (near Camabatela), 7.

Pycnonotus latirostris eugenius Reichenow, 1892

This is a moderately distinct race, differing from *latirostris* in the richer, more yellowish olive under parts, the brighter yellow submalar streaks with less dusky between their anterior ends, and the slightly greener upper parts, especially the crown (which is less grayish olive). The postulated larger size of this race is slight and most evident in the longer tail (Uganda: ♂ wing, 80–90; tail, 77–83 mm. West Kenya: ♂ wing, 82–93; tail, 81–90. For details see below).

Our Ruwenzori specimens agree fairly well with other Uganda specimens, though Gyldenstolpe (1924, K. Svenska. Vetensk. Akad. Handl., (3), **1**, no. 3, p. 185) refers birds from the west side of the Semliki Valley to *latirostris*.

The West Kenya birds are not of certain allocation to this race or the next, being intermediate in size and in color. They are arbitrarily referred here.

Specimens examined.—CNHM, Uganda, Ruwenzori, 7; Toro, 7; Ankole, 3; Kigezi, 1; Mabira, 2; Bugoma, 2. Kenya, Mount Elgon area, 8; north Kavirondo, 8; Kericho, 8.

Pycnonotus latirostris saturatus Mearns, 1914

Distinguished from *eugenius* by the greener upper parts, especially the crown, the more greenish (less warm olive-tinged) under

parts, the yellow sub-malar stripes, which are slightly more confluent at the anterior end (i.e., more yellow in the chin), and the average larger size, especially the longer tail. The postulated paler rectrices are not evident in this material (♂ wing, 89–96; tail, 83–92; for details see below).

This is the form of the Kenya highlands. As mentioned above, west Kenya birds are intermediate on measurements and could equally well be referred to this race, and the same is true of color. Thus, the Rift Valley is not actually a sharp dividing line between the two races but an area of intergradation over a considerable area.

About half of the Kenya highlands birds are clearly greener than the Uganda birds, with about half showing little difference. However, color plus size, especially tail length, make this a fairly well-defined race. Greenish tones such as these are often affected by foxing, but it seems not to have been the case in this instance. Specimens taken in 1906 are as green as those taken in 1949.

I have seen no specimen of the race *australis* Moreau (1941, Bull. Brit. Orn. Cl., **62**: 29), Mbisi, western Tanganyika Territory, but Moreau writes me that he does not now recognize it. This gives an interrupted range for *saturatus*.

Pycnonotus latirostris pallidus Mearns is considered unseparable from *saturatus*. It is said to differ from all the other races in being paler, especially on the middle of the abdomen (Friedmann).

It appears to be known only from the original four specimens from Mount Gargues, an isolated mountain mass north of Mount Kenya on the extreme northeast edge of the range.

Dr. Friedmann has lent me three of the four specimens. These are fairly uniform in appearance and have the large size and the greenish-tinged plumage that characterize *saturatus*.

While *pallidus* is paler than average *saturatus* it falls within the average range of the latter, and the complete overlap makes it seem necessary to consider *pallidus* a synonym of *saturatus*.

Specimens examined.—Mount Kenya area, 11; Nairobi area, 8; Mount Gargues, 3 (USNM).

Measurements of *Pycnonotus latirostris* are as follows:

P. l. congener.—Liberia, Sierra Leone: Wing, ♂ 81; sex? 83. Tail, ♂ 72; sex? 77. Culmen, ♂ 16.5; sex? 16.

P. l. latirostris.—Nigeria, Cameroon and Gabon: Wing, ♂ (7) 80–90 (av. 85.8); ♀ 77, 82, 82, 83. Tail, ♂ (7) 68–80 (av. 76.4); ♀ 69, 75, 76. Culmen, ♂ 17–19; ♀ 16–17. Angola: Wing, ♂ 86,

90, 90, 91, 92; ♀ 77, 79. Tail, ♂ 83, 85; ♀ 77, 79. Culmen, ♂ 17.5–19; ♀ 18.

P. l. eugenius.—Ruwenzori: Wing, ♂ 85, 88, 89, 89, 89; ♀ 78, 81. Tail, ♂ 78, 82, 83, 84, 84; ♀ 74, 77. Culmen, ♂ 16.5, 17, 18, 18; ♀ 16.5. Uganda, other localities: Wing, ♂ (8) 80–90 (av. 85); ♀ 78, 80, 82, 86, 86. Tail, ♂ (7) 77–83 (av. 79.4); ♀ 73, 74, 77, 78, 80. Culmen, ♂ 17–19; ♀ 15–17. Kenya, Mount Elgon area: Wing, ♂ 89, 91, 93; ♀ 84. Tail, ♂ 83, 85, 90; ♀ 81. Culmen, ♂ 17, 17.5, 18. Northern Kavirondo: Wing, ♂ 82, 86, 88; ♀ 82, 88, 89. Tail, ♂ 81, 83; ♀ 76, 78, 82, 83. Culmen, ♂ 17–17.5; ♀ 16–17. Kericho: Wing, ♂ 89, 89, 89, 93; ♀ 82, 83, 86. Tail, ♂ 81, 84, 88; ♀ 77, 80, 80. Culmen, ♂ 16, 17, 17; ♀ 16, 16.5, 17.

P. l. saturatus.—Mount Kenya area: Wing, ♂ 90, 91, 92, 93, 93, 94, 96; ♀ 85, 90. Tail, ♂ 86, 87, 87, 88, 90, 90, 91; ♀ 80, 88. Culmen, ♂ 17–18; ♀ 18. Nairobi area: Wing, ♂ 89, 89, 90, 92, 93, 95; ♀ 85. Tail, ♂ 83, 83, 85, 87, 90, 92; ♀ 83. Culmen, ♂ 16.5–18; ♀ 16. Mount Gargues: Wing, ♀ [= ♂] 92; ♀ 85, 85. Tail, ♀ [= ♂] 91; ♀ 80, 83. Culmen, ♀ [= ♂] 17; ♀ 16, 16.

Pycnonotus gracilirostris

This is a forest species ranging from Senegal to Kenya and Angola. There is one undisputable race, *percivali*, of the Kenya highlands. For the rest, there is variation from locality to locality but the difference between populations is such as to make delimitation of races difficult. Bannerman's (1936, Bds. Trop. W. Afr., **4**: 188) and Chapin's (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 116) different treatments illustrate this.

The following is perhaps the best treatment:

Pycnonotus gracilirostris gracilirostris Strickland, 1844

This is the Upper Guinea race. Bannerman gives its range as east to Uganda, but Chapin says it is restricted to Upper Guinea, reaching its eastern limits in southern Nigeria and Fernando Po.

It is said to be characterized by being paler than the next form, lighter green above and lighter gray below. Judging from our single specimen from Liberia it is only lightly characterized.

Pycnonotus gracilirostris congensis Reichenow, 1916

This is the lower Guinea form, from Cameroon to northern Angola and east through the Belgian Congo forests.

It is darker than the preceding. Our specimens show that Angola birds are slightly darker above, especially with the tail more blackish than Cameroon birds, but they are best grouped together. In both Cameroon and Gabon a few birds are more olive below than the others, but individual variation is not apparent in the Angola birds. Angola birds have the tail slightly longer than do other specimens.

Measurements.—Cameroon: Wing, ♂ 83, 85, 85, 86, 88. Tail, ♂ 73, 75, 75, 76, 77. Gabon: Wing, ♂ 81, 83, 84, 86, 86, 87. Tail, ♂ 71, 72, 75, 76, 78, 79. North Angola: Wing, ♂ (10) 82–88 (av. 85.6). Tail, ♂ (8) 76–82 (av. 79).

Pycnonotus gracilirostris chagwensis van Someren, 1915

The Uganda race, intergrading with the next in western Kenya and presumably with the preceding in the eastern Belgian Congo. Presumably, southern Sudan birds and Kungwe-Mahare highland birds belong here.

On the under parts this race differs little from *congensis*, but above it is lighter olive, and the tail especially is lighter and browner.

Compared with Angola birds, Uganda birds are rather conspicuously different. Part of the difference in the back color may be due to foxing of the older series, but that is hardly likely to be true of the tail color. Compared with Cameroon birds the difference is less, but still evident.

The characters of this race are not simply those of intergradation between *congensis* and the greener *percivali*, and it seems advisable to recognize *chagwensis*.

Measurements.—Uganda: Wing, ♂ (10) 82–89 (av. 85.3); ♀ (9) 81–85 (av. 82.7). Tail, ♂ (9) 75–82 (av. 77.7); ♀ (6) 76–83 (av. 79.1). Culmen, ♂ 18–20; ♀ 18–20 mm.

Pycnonotus gracilirostris percivali Neumann, 1903

This race of central Kenya is fairly distinct on the basis of its greener upper parts, crown, back, and tail, and its paler gray under parts.

Measurements.—Mount Kenya area (Chuka: Meru): Wing, ♂ 89, 89; ♀ 89. Tail, ♂ 81, 83; ♀ 81. Culmen, 19–20. Nairobi area (Kiambu and Karura Forest): Wing, ♂ 85, 87; ♀ 85. Tail, ♂ 78, 79; ♀ 78. Culmen, 19.

Pycnonotus tephrolaemus

The birds included here are all mountain forest birds with many isolated populations. They have often been grouped into three spe-

cies: *tephrolaemus* for the yellow-bellied forms (3 subspecies) from Cameroon and from eastern Belgian Congo to the Kenya highlands; *nigriceps* for the gray-breasted forms from the peripheral Tanganyika-Northern Rhodesia highlands localities (5 subspecies); and *chlorigulus* for the yellow-throated form from the central Tanganyika (Iringa) highlands. Though these groups do not show intergradation, their distribution, habitats, and habits are all similar, and Moreau (1943, Ibis, p. 391) has already suggested they may be conspecific, which course I follow.

The general similarity of all these birds, plus distribution pattern and habit similarities, justify the grouping of forms with both greater and lesser striking, non-intergrading color characters.

Pycnonotus tephrolaemus tephrolaemus Gray, 1862

From Mount Cameroon, 5800–6500 feet altitude, we have a series of eight topotypes. Measurements: Wing, ♂ 87, 88, 89, 89, 90; ♀ 83, 83, 84. Tail, ♂ 76, 78, 79, 80, 80; ♀ 73, 74, 77. Culmen, ♂ 20–21; ♀ 19–20 mm.

Amadon (1953, Bull. Amer. Mus. Nat. Hist., **100**: 423) reports that Fernando Po birds are the same.

Pycnonotus tephrolaemus bamendae Bannerman, 1923

This form, of the Cameroon highlands, is described as darker green below; gray of head darker and continued farther onto chest, and tail longer. Measurements: Wing, ♂ 87–94; ♀ 85–90. Tail, ♂ 85–87; ♀ 78–83 mm. (Bannerman, 1936, Bds. Trop. W. Afr., **4**: 183). I have seen no specimens.

Pycnonotus tephrolaemus kikuyuensis Sharpe, 1891

The form of the mountains of the eastern Belgian Congo, Uganda, and the Kenya highlands.

It differs from the Cameroon birds chiefly in having the gray ear coverts distinctly streaked with white, and the white eye ring wider and more conspicuous.

Specimens examined from Uganda (Ruwenzori, 15; Ankole, 4) and Kenya (Elgon area, 3; Mau Plateau, 22; Eldoma Ravine, 1; Laikipia, 1; Kinangop, 2; Navasha, 2; Elgeyu, 1; and Mount Kenya, 7) are very similar in both color and measurements. Wing, ♂ (10) 83–94 (av. 89.8); ♀ (10) 83–87 (av. 85.2). Tail, ♂ (10) 78–89 (av. 84.1); ♀ (10) 78–85 (av. 81.9). Culmen, ♂ 16.5–19; ♀ 16.5–19.

Pycnonotus tephrolaemus nigriceps Shelley, 1890

The form of the mountain forests of central northern Tanganyika (Mount Kilimanjaro, type locality, and Ngorongoro-Oldean-Hanang).

This form is very different in color from the preceding, with back darker green, crown blackish (not gray), eye ring gray (not white), breast and abdomen gray tinged yellowish-green on flanks and center of abdomen (not entirely greenish yellow).

Ngorongoro birds (8), compared with Kilimanjaro (3) and Mount Meru (1) birds, differ slightly in having the greenish wash of flanks and center of abdomen slightly duller and less extensive, but the difference is slight and not worth nomenclatural designation. Measurements: Wing, ♂ 88–92 (90.7); ♀ 85, 86, 87, 88. Tail, ♂ (8) 79–85 (av. 82); ♀ 75, 79, 80, 83. Culmen, ♂ 18–20; ♀ 18–19.5 mm.

Pycnonotus tephrolaemus usambarae Grote, 1919

This form of South Pare (Moreau, 1940, Ibis, p. 457) and the Usambara Mountains is a quite distinct race, similar to *nigriceps* except for having the crown and hind neck gray bordered laterally with black (not generally blackish), and in averaging more green in the flanks; slightly more greenish wash on the abdomen; and average smaller bill. Six specimens from Usambara were examined. Measurements: Wing, ♂ 86, 88, 90, 91; ♀ 85, 86. Tail, ♂ 82, 87, 88; ♀ 78, 83. Culmen, ♂ 16–18; ♀ 15.5, 16.5 mm.

Pycnonotus nigriceps percivali (Hartert, 1922, Bull. Brit. Orn. Cl., **42**: 50) from Usambara Mountains is a synonym, as has been pointed out by Sclater and Moreau (1932, Ibis, p. 680).

Pycnonotus tephrolaemus neumanni Hartert, 1922

I have not seen this Uluguru Mountains form, which was described as differing from *P. t. nigriceps* (and thus also from *usambarae*) in having no gray eye-ring, the ear coverts solid gray without stripes, and the throat and jugulum darker gray (♂ wing, 93; tail, 89 mm.).

Pycnonotus tephrolaemus kungwensis Moreau, 1941

This Kungwe-Mahara highland form I have not seen. It was described as most like *fusciceps* but with the sides of face, lores, and throat pale gray and the white around eye ill-defined (wing, 94; tail, 85; culmen from base, 17).

Pycnonotus tephrolaemus fusciceps Shelley, 1893

This, the form from the mountains north of Lake Nyasa (in Tanganyika Territory), Nyasaland, Northern Rhodesia and northwestern Portuguese East Africa, is one of the gray-breasted races, with a gray crown; the white eye ring is incomplete, represented by distinct white upper and lower segments, and the ear coverts are solid gray, unstreaked.

Specimens from Northern Rhodesia (11) and southwestern Tanganyika Territory (Poroto Mountains, Mount Rungwe) (10) are very similar in color. Measurements: Wing, ♂ (7) 95–98 (av. 97.2); ♀ (10) 87–94 (av. 90.4). Tail, ♂ (7) 87–95 (av. 92); ♀ (10) 83–90 (av. 87.5). Culmen, ♂ (7) 16.5–20 (av. 18.8); ♀ 16–19 mm.

Pycnonotus tephrolaemus chlorigulus Reichenow, 1899

We have a series of five of this form of the Iringa highlands. It also occurs on Nguru Mountain (*schusteri* Reichenow, 1913, being a synonym) and Kiboriani north of Mpwapwa.

In details of plumage it is very similar to *fusciceps*, with a gray crown, darker over eye, and incomplete but conspicuous white eye ring, but it is very distinct from that form in the brighter green upper parts, the yellowish olive area on lower throat and upper breast, and the slightly more yellowish green flanks. In size it is similar but with an average slightly smaller bill. Measurements: Wing, ♂ 93, 97, 98; ♀ 89, 91. Tail, ♂ 90, 92, 93; ♀ 87, 89. Culmen, ♂ 18, 18, 18.5; ♀ 17, 18.

The yellowish-green lower throat and upper chest are unique in the species.

Pycnonotus milanjensis

This is an East African species of mountain forests occupying an interrupted range from Kenya to southern Rhodesia, where suitable habitat occurs.

The extreme southern birds (Mlanje, Nyasaland, and Southern Rhodesia) have a gray crown, and the birds from Cholo, Nyasaland, north have a green crown and a generally yellower or more golden plumage. Within this green-headed group, the southern birds are duller and greener, and the northern birds are brighter, yellower golden, with intermediate-colored populations at intermediate localities.

It seems to be advisable to recognize three subspecies as follows:

Pycnonotus milanjensis milanjensis Shelley, 1894

Type locality, Milanji (=Mlanje), Nyasaland.

Crown gray; body plumage greenish.

Range: Mlanje, Nyasaland, eastern Mashonaland, Southern Rhodesia and in Portuguese East Africa.

Specimens examined.—Mlanje (2400 feet), Nyasaland (1), and Vumba, Southern Rhodesia (2).

Pycnonotus milanjensis olivaceiceps Shelley, 1896

Type locality, Mount Chiradzulu, Nyasaland.

Though this race has been generally rejected, it seems perfectly valid; like *milanjensis* but crown olive green (not gray), less gray in throat, plumage generally more yellowish olive.

Range: From Cholo, Nyasaland, to Rungwe Highlands, southwest Tanganyika Territory.

Specimens examined.—Nyasaland, 2 (Masuku Mountains and Mzimba District); Tanganyika Territory, 2 (Rungwe).

Pycnonotus milanjensis striifacies Reichenow and Neumann, 1895

Type locality, Marangu, Kilimanjaro.

Like *olivaceiceps* but plumage generally more yellowish- or golden-tinged, above and below.

Range: Southern Kenya through eastern Tanganyika Territory to Iringa Highlands.

Compared with *olivaceiceps* from Nyasaland and Rungwe the birds from the northern part of the range are as different as most moderately distinct, widely accepted subspecies. A bird from the Iringa Highlands (Kigogo, Uzungwe Mountains) is intermediate but best placed here.

Within this subspecies the samples I have of the various populations from Kenya to Uluguru Mountains show slight differences: birds from Kilimanjaro average slightly more golden; from Mount Meru they are slightly darker; from Chyulu Hills they are slightly paler and duller; from Tavete they are slightly clearer yellow; from Usambara they are very similar to Chyulu birds; from Uluguru they are very similar to Kilimanjaro birds.

However, these differences are only average and slight, and are complicated by individual variation and variation apparently due to

museum age of skins. It seems inadvisable to try to separate any of these populations into very finely split subspecies. Hence I consider *P. m. chyulu* van Someren (1939, Jour. E. Afr. Ug. Nat. Hist. Soc., **14**: 64), type locality Chyulu Hills, as a synonym, though there is a little something to the variation it was intended to point out.

Specimens examined.—Kenya: Teita, 6; Chyulu Hills, 6. Tanganyika Territory: Mount Meru, 2; Mount Kilimanjaro (Moshi), 12; Usambara Mountains, 4; Uluguru Mountains, 7; Uzungwe Mountains, 2.

Baeopogon indicator Verreaux

I have seen no specimens from Upper Guinea so I accept the two races there, *leucurus* Cassin, Liberia, and *togoensis* Reichenow (with *ussheri* a synonym), Togoland, as outlined by Bannerman (1936, Bds. Trop. West Afr., **4**: 168). Of the Lower Guinea to Kenya populations I have: Cameroon, 25; Gabon, 2; Angola, 2; Uganda, 6; Kenya, 1. These birds are customarily divided into two subspecies: *indicator* Verreaux, type locality Gabon, ranging from northern Angola to Cameroon to the Kasai and the Upper Congo near Stanleyville; and *chlorosaturata* van Someren, type locality Kyetume Forest, Uganda, ranging from the eastern Congo forests to Sudan and Kenya, characterized by being like *indicator* but more greenish olive above, very much darker gray below, each feather with lateral olive green edges, and abdomen darker ochraceous (original description). Chapin has already pointed out (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 123) that the differences between the Cameroon and Uganda birds is really slight.

Our four adult Uganda birds, compared with two Gabon birds, average slightly lighter, brighter, greener above, and paler gray (not darker) below, but the differences are slight, and both Uganda and Gabon birds fall within the range of variation of our series of southern Cameroon birds in all these characters. There is no difference in size (wing, ♂ Uganda, 101–106; Cameroon, 99–108; Gabon, 104, 106). It seems inadvisable to recognize *chlorosaturata* on the slight average difference. Two Angola females (wing, 101, 106 mm.; tail, 79, 82) are apparently in first year plumage with rather narrow pointed rectrices. Compared with Cameroon birds, they are slightly clearer gray, with less greenish wash or buffy tinge below, and colder, less olive green above. Part at least of this difference is probably due to the freshness of the Angola birds (collected in 1954).

Chlorocichla falkensteini Reichenow

The Cameroon and the Angola populations of this west African species are generally kept separate as two subspecies. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A:** 138), while recognizing the two subspecies and characterizing the Cameroon bird, *viridescentior* Sharpe, as having deeper green upper parts and more gray on the chest and flanks than *C. f. falkensteini* Reichenow of the Loango Coast, etc., says that the differences in color are almost negligible.

We have seven adult Angola birds, collected in 1908 (Ansorge), 1952 (Beatty), and 1954 (Heinrich), and nine Cameroon birds collected in 1924–27 (Bates) and 1941–52 (Good). The older birds in both series show the characters attributed to *falkensteini* and the recently collected birds those of *viridescentior*. Between birds of comparable age of skin from the two localities I can see no color differences. Evidently this species changes considerably through museum age (foxing).

The following measurements show no differences except a very slight average smaller bill size of Cameroon birds:

Angola: ♂ Wing, 88, 93, 93, 93, 94, 94. Tail, 78, 79, 81, 81, 82, 85. Culmen, 19 (5), 20 (1). ♀ Wing, 87. Tail, 78. Culmen, 19.

Cameroon: ♀ Wing, 92, 92, 92. Tail, 83, 83, 84, 85. Culmen, 18, 19, 19. ♀ Wing, 85, 87, 87, 88, 92. Tail, 74, 75, 80, 82. Culmen, 17 (2), 18 (1), 19 (1).

It is impossible to recognize any races in this species.

The original description is sometimes quoted from a source that is incorrect (Correspondenzbl. Afr. Gesellsch., no. 10, p. 179), for Grant and Mackworth-Praed (1955, Bull. Brit. Orn. Cl., **75:** 24) show that this was published in December, 1874, while another description (Jour. f. Orn., **22:** 458) was published in October, 1874, and therefore takes precedence.

Chlorocichla simplex Hartlaub

When I reported on a series of Liberia birds (1951, Fieldiana: Zool., **32:** 619) I had but two Cameroon birds. Now with an additional 30 birds from Cameroon and three from Angola certain other points emerge.

There is considerable variation in color in the series of Cameroon birds. About half the series has the under parts generally distinctly washed with yellowish, the flanks, and especially the under tail coverts buffy, and the upper parts slightly brownish-olive; the other

half tends to have the under parts less yellow-tinged, flanks less buffy, under tail coverts paler, and upper parts more dusky. These last include all the worn birds and I assume that most if not all of this difference is due to wear and fading in life, though the effects of wear on feather structure is pronounced on only a few specimens.

The birds in first year plumage are very similar to the adult except for the more pointed tail feathers, the more olive-brown outer margins to the remiges, a few brownish-margined lesser upper wing coverts, and the retention of some fuzzy under tail coverts.

Birds from Liberia (12) and Angola (3) agree well with the corresponding stage of plumage of Cameroon birds.

There is no difference in size of adults:

Liberia: Wing, ♂ 104–109; ♀ 95–100. Tail, ♂ 91–95; ♀ 85–91. Culmen, ♂ 22–23; ♀ 20–22.

Cameroon: Wing, ♂ 97–110; ♀ 95–100. Tail, ♂ 89–99; ♀ 86–90. Culmen, ♂ 20–22.5; ♀ 19–21.

Angola: Wing, ♂ 110; ♀ 101, 102. Tail, ♂ 98; ♀ 93. Culmen, ♂ 22, 22; ♀ 21.

Immatures are little smaller than adults: Wing, ♂ 99, 102, 102; ♀ 94, 97. Tail, ♂ 91, 92, 96; ♀ 88, 90.

I have seen no birds from the eastern edge of the range (eastern Belgian Congo).

Chlorocichla flavicollis Swainson

There are three well-defined subspecies or groups of subspecies in this species: Upper Guinea to Central Cameroon, birds with yellow throat and brownish under parts (*flavicollis*, with *adamauae* a synonym); southern Cameroon to Gabon and most of the Belgian Congo, birds with whitish throat and pale grayish olive breast and flanks (*soror* and *?simplicicolor*); from Angola to Northern Rhodesia and north to Kenya, birds which are intermediate between the first two in characters but not in geographical range (*flavigula* + *pallidigula*).

Some further variation permits additional subspecies to be recognized within these groups, but some variation within the groups is too slight to use in establishing subspecies.

Chlorocichla flavicollis flavicollis Swainson

This Upper Guinea race is very distinct from the other forms in its large size, bright yellow throat and under parts heavily washed with brown.

C. f. adamauae Reichenow, 1910, from Ngendero [Genderu] Mountains, north Cameroon, was described as differing from *flavicollis* in the less pale, grayer tone of the under side. Bannerman (1936, Bds. Trop. W. Afr., **6**: 163) examined the type in the Berlin Museum and while considering it a doubtful race recognized it and included a Nigerian specimen in it, on the basis of the grayer under side.

I have two specimens from Galim, Cameroon, that should be *adamauae*, coming as they do from just east of the type locality, and the American Museum has lent me one specimen of *C. f. flavicollis* from Senegambia. The two Galim birds are very similar to each other, and on the upper parts are very similar to the Senegambia bird. On the under parts the Galim birds differ slightly in the rather more intensely yellow throat. The breast and abdomen of one Galim bird are about the same, those of the other slightly browner (not grayer) than those of the Senegambia birds. The postulated characters of *adamauae* are thus not substantiated.

It should be noted that the quite different race *soror* has been taken at Tibati, only about 30 miles south of Galim.

Measurements are as follows:

Senegambia: Sex? wing, 116; tail, 106; culmen, 24; tarsus, 25.

Cameroon: Wing, ♂ 122; ♀ 119. Tail, ♂ 114; ♀ 100. Culmen, ♂ 23; ♀ 22. Tarsus, ♂ 25; ♀ 24 mm.

Chlorocichla flavicollis simplicicolor Grote

This is a doubtful race on the northern edge of the range of the race *soror* with apparently a very limited range. Bannerman (1936, Bds. Trop. West Afr., **4**: 163) has examined the type and accepts it as a race, like *soror* in having a white throat but much browner below.

Chlorocichla flavicollis soror Neumann

This is the race of Cameroon, Gabon (type locality), and most of the Belgian Congo (see Chapin, 1953, Bull. Amer. Mus. Nat. Hist., **75A**: 142). It is quite different from *flavicollis* in the nearly white, not bright yellow throat, and the much less brownish under parts.

Chapin (loc. cit.) has pointed out minor size variation in this subspecies, and our specimens (Gabon, 9; Moyen Congo, 5; Cameroon, 11) also show this: Gabon birds are smallest (wing, ♂ 101–107),

Moyen Congo birds slightly larger (wing, ♂ 103–109), and Cameroon birds largest (wing, ♂ 110–111 mm.). Cameroon birds are also warmer, more brownish-tinged on the breast and flanks and slightly warmer-tinged above than the others.

We have specimens of *soror* from Tibati, while we have *flavicollis* from Galim, only about 30 miles north, without any signs of intergrading, which suggests that the two may possibly be found to meet as species.

Chlorocichla flavicollis flavigula Cabanis

Sclater (1930, Syst. Av. Aethiop., p. 379) synonymized *soror* (type locality in Gabon) with *flavigula* (type locality Angola) and recognized both *pallidigula* Sharpe (type locality Entebbe, Uganda) and *shelleyi* Neumann (type locality Muansa, south shore of Lake Victoria). Bannerman (1936, Bds. Trop. West Afr., **4**: 162) recognizes *soror* and lumps *flavigula* and *pallidigula*, while Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 142) recognizes *soror*, *flavigula*, and *pallidigula*, with *shelleyi* a synonym of *pallidigula*.

Our material from Angola (6), Northern Rhodesia (4), southeastern Congo (2), Uganda (34), and Kenya (3), compared with Gabon birds (topotypical *soror*), indicates that Angola *flavigula* is a quite distinct race compared with *soror*, on the basis of the yellower throat, darker and more greenish olive (less grayish) chest and flanks, and more greenish olive back. The Gabon *soror* were taken in 1952, the Angola *flavigula* in 1954; so there is no question of foxing.

Kenya birds and eastern Uganda birds are again quite different from Angola birds for the throat is still more yellow, and the breast, flanks and upper parts are warmer brownish olive. (There is the possibility that part of this difference is due to foxing, the Kenya-Uganda birds being considerably older.)

Intermediate populations geographically (Northern Rhodesia, eastern Congo [Kivu], and western Uganda) are variably intermediate in characters, and some western Uganda birds, especially those from Bugoma and Bwamba, show an approach to *soror*.

It seems advisable to follow Chapin and make a rather arbitrary division of these populations into a southern, less brownish-tinged, less yellow-throated race, *flavigula* (Angola–southern Belgian Congo–Northern Rhodesia), and a northeastern race, *pallidigula* (northern end of Lake Tanganyika to Uganda and Kenya), with these characters more pronounced.

Chlorocichla flavicollis pallidigula Sharpe

The Kenya (Kavirondo) birds have the characters of this race most pronounced (see under *flavigula*) and surprisingly look like exact intermediates between the quite different *soror* and *flavicollis*, which occur within 30 miles of each other in Cameroon without demonstrated intergradation.

Chlorocichla flaviventris Smith

This is a bird of eastern and southern Africa, with apparently one well-characterized race, a bird with brownish upper parts and tail, in South Africa (Natal and Zululand); and a cline from a pale greenish-backed bird in Bechuanaland to a darker brownish-backed bird with a darker crown in Kenya—a cline complicated by variation in size, in part correlated with considerable areas and in part local. Obviously, subjective views will affect the number of names used to designate this variation. At least eight are available. I adopt three: one for the South African subspecies, and one for each end of the cline, giving three subspecies, which accords with the treatment by Sclater and Chapin.

In this species foxing is pronounced, older skins being browner olive, less greenish olive on the upper parts, and this must be taken into account when making comparisons or considering descriptions.

Chlorocichla flaviventris centralis Reichenow

This includes the northwest populations of the species, from northern Portuguese East Africa and Tanganyika to Jubaland, to parts of which four names have been applied: *centralis* Reichenow, 1887 (type locality Loeru, Tanganyika Territory); *mombasae* Shelley, 1896 (Mombasa), described as darker above than *centralis; meruensis* Mearns, 1914 (Meru Forest near Mount Kenya), described as like *mombasae* but top of head darker, back more greenish olive, and under parts yellower (wing, type, ♂, 101); and *chyuluensis* van Someren (1939, Jour. E. Afr. and Ug. Nat. Hist. Soc., **14**: 68), described as darker above and paler below with more grayish flanks, compared with all the above.

Our material indicates but slight color differences in specimens from coastal Kenya (Rabai, Sokoke, etc.), Jubaland, Teita Range, Nairobi area (Karura and Kiambu Forests) and Meru near Mount Kenya, with individual variation in the larger series more than bridging slight average differences. I have seen no Chyulu specimens and follow Mackworth-Praed and Grant (1940, Ibis, p. 325)

and Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 139) in considering them indistinguishable.

The Kilosa birds, from somewhat south and east of the type locality of *centralis*, show a definite tendency toward *occidentalis* in the paler and greener back, though with crown still definitely darker and browner than back, and paler yellow under parts. These approach certain Northern Rhodesia birds in color but have a longer bill.

In size there are slight differences between certain populations. Coastal Kenya and Kilosa (1700 feet) birds are smaller than the inland Kenya birds in wing and tail.

However, as the color differences represent the northern end of a cline and the size differences in wing and tail are small, it seems advisable to group all these populations under one name.

Specimens examined.—Tanganyika Territory: Kilosa, 2. Kenya Colony: Coastal (Rabai, Sokoke, etc.), 59; Teita Range, 3; Nairobi area, 3; Meru, near Mount Kenya, 1. Jubaland: Juba River, 2.

Measurements are as follows: Kilosa: Wing, ♂ 105; ♀ 102. Tail, ♂ 103; ♀ 99. Culmen, ♂ 24; ♀ 24.

Coastal Kenya: Wing, ♂ (10) 99–108 (av. 105.4); ♀ (10) 96–102 (av. 98.1). Tail, ♂ 92–101 (av. 96); ♀ 84–94 (av. 89.2). Culmen, ♂ 23–25; ♀ 21–23.

Jubaland: ♂ Wing, 103, 105. Tail, 92, 96. Culmen, 24, 24.5 mm.

Teita Range: Wing, ♂ 111, 112; ♀ 104. Tail, ♂ 101, 101; ♀ 93. Culmen, ♂ 24, 24; ♀ 22.

Nairobi–Mount Kenya area: ♂ Wing, 110, 110. Tail, 101, 101. Culmen, 24, 24.

Chlorocichla flaviventris occidentalis

The populations included here have had three names applied to them in part: *occidentalis* Sharpe, 1881 (type locality Angola); *zambesiae* Shelley, 1896 (Zambesia, probably near Victoria Falls according to Sclater), described as like *centralis* but upper parts strongly washed with olive (not yellowish); *dilutior* White (1946, Ibis, p. 80; Balovale, Northern Rhodesia), described as like *occidentalis* but paler yellow below, breast more strongly washed with olive, above duller, less yellow olive.

These populations represent the southern and southwestern half of a color cline, distinguished at the extremes (Kenya vs. Bechuanaland birds) by the southern birds having the back much paler and greener (less brownish), the crown less dark brownish and less con-

trasting with the back, the under parts paler and less vivid yellow, the flanks less brownish-tinged and the under wing clearer yellow. The Bechuanaland and southern Angola birds are very distinct, especially above, from the Kenya birds in color, but progressively from western Northern Rhodesia, northern Angola and eastern Northern Rhodesia the color approaches that of the birds from the southern part of the range assigned to *C. f. centralis*. In size, all these southern populations differ from *centralis* in the shorter bill (♂ 20–21, one 23, vs. 23–25 mm.), which apparently is not clinal; in wing length there is local variation and some populations average slightly smaller than any *centralis*, while others fall within the range of some *centralis* populations, and none quite reach the size of interior Kenya *centralis*.

Specimens examined.—Angola, 9 (Luanda, 2; Dondi, 1; Huila, 6); Bechuanaland, 8; Northern Rhodesia, 11 (including a topotype of *dilutior*).

Measurements are as follows: Angola (north): Wing, ♂ 98; ♀ 94. Tail, ♂ 93; ♀ 92. Culmen, ♂ 21; ♀ 21. Angola (south): Wing, ♂ 103–110. Culmen, 21–22.

Bechuanaland: Wing, ♂ 100, 101, 104, 108; ♀ 95, 99, 100, 101. Tail, ♂ 96, 98, 98, 99; ♀ 90, 92, 94, 94. Culmen, ♂ 21, 21, 21; ♀ 20, 20, 21.

Northern Rhodesia: Wing, ♂ 95, 99, 101; ♀ 95, 95, 96, 97, 101. Tail, ♂ 91, 95, 100; ♀ 88, 90, 92, 92, 96. Culmen, ♂ 20, 21, 21; ♀ 21, 21, 23.

Chlorocichla flaviventris flaviventris Smith

I have not seen this form of Natal and Zululand, but from descriptions it is very distinct, being olive brown above with the tail more reddish brown than the back. This race appears to be more like Kenya *centralis* than like the geographically intermediate populations (*occidentalis*).

Thescelocichla leucopleura Cassin

Though this species (type locality Gabon) is generally considered to show no geographical variation, our four Liberia specimens suggested that Upper Guinea birds might be separable as a subspecies for which the name *nivosa* Hartlaub, 1855, is available, on the basis of less yellow below, grayer breast, and less olive in the upper parts. Chapin could find no great difference between Upper and Lower Guinea birds, as I wrote in 1951 (Fieldiana, Zool., **32**: 620). We

have added to our collections a considerable number of Cameroon and Gabon birds, and four from Western Uganda (Bwamba Valley).

Though no clearly defined races are apparent, the Cameroon birds average yellower below and less gray on the chest and more olive above than do the Upper Guinea specimens, but the latter fall within the range of variation of the Cameroon series. The Bwamba birds are grayer on the chest, like Upper Guinea birds, but are yellower below and also fall within the variation of the Cameroon series. The Gabon birds (topotypes or nearly so) are similar to the Cameroon birds except for averaging slightly less yellow below. There is no geographical variation in size.

It seems impractical to separate any subspecies on these vague differences.

Specimens examined.—Liberia, 4; Cameroon, 44; Gabon, 11; Uganda (Bwamba), 4.

Measurements (of Cameroon birds): Wing, ♂ (10) 111–117 (av. 114.7); ♀ (10) 105–112 (av. 109.5). Tail, ♂ (10) 101–106 (av. 103.1); ♀ (10) 95–102 (99.4). Culmen, ♂ 23–25; ♀ 22–25 mm.

Phyllastrephus

I retain the general limits and the general arrangement of this group as outlined by Delacour and Chapin. Contra Chapin I follow Delacour in not recognizing *Pyrrhurus* (or *Prosphorocichla*) as a monotypic genus for *scandens*.

Phyllastrephus scandens

Phyllastrephus scandens scandens Swainson

There are two specimens in the Good-Cleveland collection of this Upper Guinea form from Galim, northern Cameroon, which measure: wing, ♂ 112; ♀ 108.

Phyllastrephus scandens orientalis Hartlaub

This northern Belgian Congo–Uganda, etc. race differs chiefly from *scandens* of Upper Guinea in the under parts being whitish (not pronounced yellowish buff), and in the lower back being more grayish olive, less greenish.

Specimens examined.—Uganda, Bwamba valley, 8.

Measurements: Wing, ♂ 101, 101, 107, 110; ♀ 93, 97, 98, 101. Tail, ♂ 92, 98, 99, 99; ♀ 88, 91, 93, 95. Culmen, 21–22 mm.

Phyllastrephus scandens acedis Oberholser

This southern Cameroon–Gabon–western Belgian Congo race is most like *orientalis* but differs in having the breast and flanks darker and more grayish, the crown and back darker, and, most obvious, the rufous tail decidedly darker.

Specimens examined.—Southern Cameroon, 6.

Measurements: Wing, ♂ 100, 102; ♀ 95, 98, 100, 103. Tail, ♂ 91, 92; ♀ 86, 89, 90, 91. Culmen, ♂ 20.5, 22; ♀ 20–22 mm.

Phyllastrephus scandens upembae Verheyen, 1953

Described from Upemba National Park of the Belgian Congo as like *orientalis* but with tail more nut brown and lighter, and with feet darker, almost slate blue. Schouteden (1954, Ann. Mus. Roy. Congo Belge, (4), **4**, fasc. 1, p. 90) refers southern Kasai birds here. I have not seen specimens.

Phyllastrephus terrestris

Sclater (1930, Syst. Av. Aethiop., p. 382) suggests that this is a race of *strepitans*, and Delacour (1943, Zoologica, **28**: 25) considers them conspecific. However, van Someren (1932, Nov. Zool., **37**: 342) records both forms from southern costal Kenya (whence we now have both forms, from the van Someren collection), and Friedmann and Loveridge (1937, Bull. Mus. Comp. Zool., **81**: 230, 231) record both from Kilosa, Tanganyika Territory. There is no question that the two are distinct species, with *terrestris* having a range from Kenya to Cape Colony and west to Northern Rhodesia and Bechuanaland.

There is considerable geographical variation in *P. terrestris*, as follows: A large, dark bird in South Africa; a pale bird, little smaller, in Bechuanaland and Northern Rhodesia; and a slightly smaller and considerably more rufous brown bird in southeastern Kenya. A further variation is a more olive and yellowish population in the central Kenya area (4000 to 4600 feet altitude).

There has been much uncertainty as to limits of subspecies in this species, and some names which have been applied to intermediate populations make difficult the allocation of names.

In view of the well-marked differences between the four forms, as shown by our material, it seems probable that intermediate areas will possess intergrading populations, with individuals not clearly referable to any subspecies.

Phyllastrephus terrestris bensoni van Someren

This is a race of very restricted distribution, confined to the lower Meru-Chuka forest near Mount Kenya, from 4000 to 4600 feet, whence van Someren described it in 1945 (Bull. Brit. Orn. Cl., **66**: 11).

We have a single female from the van Someren collection, Chuka, 4600 feet altitude, June 14, 1944 (wing 75, tail 85, culmen 20, tarsus 21). It differs strikingly from *P. t. suahelicus* in the olive, not rufous brown, upper parts; the grayish olive wash on breast and flanks, and under tail coverts; and the yellowish tinge of lower breast and abdomen.

Phyllastrephus terrestris suahelicus Reichenow

The type locality is Musa, Bagamoyo, Tanganyika Territory. Other names that are involved are *intermedius* Gunning and Roberts, 1911, type locality Umbelluzi River, Portuguese East Africa, and *rhodesiae* Roberts, 1917, type locality Machile River, northwest Rhodesia. The treatment of these races and their ranges has varied considerably. Most recently Peters and Loveridge (1953, Bull. Mus. Comp. Zool., **110**: 112) have synonymized *intermedius* with *suahelicus*, while Clancey (1952, Ann. Natal Mus., **12**: 250) recognizes *intermedius* and suggests that further races in the area should be recognized.

Our material from Kenya, Tanganyika Territory, Portuguese East Africa, Northern Rhodesia, and Bechuanaland, representing populations which have been variously allocated in the past, indicates that while series are variable, and each series seems slightly different from every other, a broad pattern of variation emerges: the northern birds are warmer, more brownish on the back, and especially the upper tail coverts and tail are more reddish brown; also, the flanks are more buffy, while the southern birds are more olive above, with grayer flanks.

The extremes clearly are different enough to stand as two subspecies. That additional subspecies are recognizable seems doubtful. However, where to draw the line between the two subspecies and what names to allocate is not at once so apparent.

Two birds from Kilosa, Tanganyika Territory, are the nearest to topotypical *suahelicus* I have. These are the birds that Peters and Loveridge (loc. cit.) compared when including *intermedius* and Nyasaland birds in *suahelicus*. These Kilosa birds are not as brown as average Kenya birds but they do fall within the range of variation of our considerable Kenya series. Consequently I apply the

name *suahelicus*, the only one available, to the browner end of the series of populations. A specimen from north Mozambique is similar to Kilosa birds, especially in the redder upper tail coverts, and extends the range from southeastern Kenya to northern Portuguese East Africa.

Birds from farther south I group in the more olive end of the series of populations and include under the next subspecies.

Specimens examined.—Kenya, 25 (Sokoke, Rabai, Ganda); Tanganyika Territory, 2 (Kilosa; MCZ); Portuguese East Africa, 1 (northern Mozambique; AMNH).

Measurements are as follows:

Kenya: Wing, ♂ (9) 85–91 (av. 88); ♀ (10) 74–81 (av. 77.8). Tail, ♂ (8) 82–90 (av. 85.7); ♀ 73–81 (av. 76.4). Culmen, ♂ 21–24; ♀ 18–20 mm.

Tanganyika Territory: Wing, ♂ 91; ♀ 83. Tail, ♂ 87; ♀ 84. Culmen, ♂ 24; ♀ 20 mm.

Phyllastrephus terrestris intermedius Gunning and Roberts

Under the preceding subspecies, *suahelicus*, I have outlined the characters and the names available for this subspecies (*intermedius* 1911 and *rhodesiae* 1917), in which I group the birds from southern Portuguese East Africa to Bechuanaland, and the edge of the Belgian Congo (Ndola in Northern Rhodesia).

Our Bechuanaland birds average slightly duller above than our Northern Rhodesia birds, but the difference is slight and there is considerable overlap. Roberts called both these *rhodesiae*. Our specimens from Beira, nearby Gorongoza District, and Tete, Portuguese East Africa, agree better with Northern Rhodesia birds than with Kenya birds, especially on the less rufous upper tail coverts, though they may be slightly paler above. All these birds are best grouped together as belonging to the more olive end of the *intermedius–suahelicus* series and listed under *intermedius*. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 161) extends the range (as *P. t. rhodesiae*) to Gambos in Angola.

It seems advisable to emphasize that Noomé, quoted in a number of places as the type locality, is actually the name of a collector, F. O. Noomé.

Specimens examined.—Northern Rhodesia: Lundazi district, 8; Ndola, 1. Southern Rhodesia: Mount Selinda, 1 (MCZ). Bechuanaland: 13 (Kabulabula, Maun, Kasane). Portuguese East Africa: 6

(Beira, 1, AMNH; Gorongoza district, 1, AMNH; Tete, 4, MCZ). Angola: 5 (Huila, Jan).

Measurements are as follows:

Northern Rhodesia: Wing, ♂ 85, 87, 91, 92, 93, 95; ♀ 77, 81. Tail, ♂ 85, 87, 92, 93, 95, 96; ♀ 83, 84. Culmen, ♂ 22.5–24; ♀ 19, 20.

Southern Rhodesia: Wing, 85. Culmen, 23.

Bechuanaland: Wing, ♂ (8) 85–96 (av. 92.1); ♀ 79, 81, 81, 86. Tail, ♂ (8) 86–101 (av. 93.6); ♀ 87, 89, 90, 91. Culmen, ♂ 21–24; ♀ 20–22 mm.

Portuguese East Africa: Wing, 92, 85, 81, 81, 78, 77. Tail, 95, 89, 85, 83, 80. Culmen, 20–25 mm.

Angola: ♂ Wing, 91–94. Tail, 94–100. Culmen, 23–23.5.

Phyllastrephus terrestris terrestris Swainson

This form, from southern and eastern Cape Province north to Transvaal and part of Zululand, is, according to our specimens, very little larger in wing length than *intermedius*, but it does have a larger bill and is much darker olive brown on the upper parts and tail and has much darker, olive-colored flanks and a conspicuous wash of this on the breast.

Without topotypical *montanus* Roberts, of northern Drakensberg and Zoutpansberg, I follow Vincent (1952, Check List of Bds. South Africa, p. 65) in considering it a synonym. It was characterized by Roberts as dark like *terrestris* but with more rufous, and smaller perhaps.

Specimens examined.—Cape Province, 2. Natal, 2 (AMNH and MCZ).

Measurements are as follows:

Cape Province: ♂ Wing, 92, 95. Tail, 91, 95. Culmen, 25, 25.

Natal: Wing, ♂ 95; ♀ 87. Tail, ♂ 93; ♀ 88. Culmen, ♂ 25; ♀ 23.

Phyllastrephus strepitans Reichenow

I have pointed out, under *terrestris*, that *strepitans* is a species, distinct from *terrestris*. It is plainly separable by the more rufous coloration and the smaller size. There is considerable sexual dimorphism in size, and this must be considered when comparing the species.

The many synonyms of this species have been brought together and dismissed by Friedmann (1937, Bull. U. S. Nat. Mus., **153**: 116:

Calamocichla schillingsi Reichenow, 1904; *P. sharpei* Shelley, 1880; *P. rufescens* Hartlaub, 1892; *P. s. fricki* Mearns, 1914; and *P. pauper* Sharpe, 1895).

As Friedmann has pointed out, wear and fading changes the appearance of these birds greatly. Juba River birds tend to have the breast whiter and flanks paler than southern coastal Kenya birds, and van Someren (1932, Nov. Zool., **37**: 344) has kept these separate from coastal Kenya birds as *pauper*. However, individual variation is such that I agree with Friedmann in recognizing no races. No differences in size are evident. In van Someren's measurements his "larger" race averaged 78 mm., while his smaller race averaged 77 mm. The two Kilosa birds fall within the range of variation of Kenya birds.

Specimens examined.—Abyssinia: 2 (Sheik Hussein, Bale). Kenya: southern coast, 39 (Changamwe, Rabai, Mazeras, Ganda, Malinda, Kipini, Sokoke, Tana River, Voi, Teita, Simba); Juba River, 34; Kenya, northern and western, 7 (Kaptir, Suk; Marsabit; Muressi, Turkwell). Uganda: Moroto Mountains, 1. Tanganyika: Moshi, 3; Mkomosi, 1; Kilosa, 2 (MCZ).

Measurements are as follows:

Juba River: Wing, ♂ (10) 73–84 (av. 78.6); ♀ (10) 72–79 (av. 74.6). Tail, ♂ 75–88 (av. 81.2); ♀ 75–85 (av. 77.7). Culmen, ♂ 19–22; ♀ 19–21 mm.

Sokoke, coastal Kenya: Wing, ♂ 72–82; ♀ 69–80.

Tanganyika: Moshi, Wing, ♂ 78, 79. Kilossa, Wing, ♂ 81; ♀ 76.

Abyssinia: Wing, ♂ 83; ♀ 76. Tail, ♂ 90; ♀ 83.

Phyllastrephus cerviniventris

This seems to be a bird of evergreen forest, and consequently with an interrupted distribution in its predominantly East African range. Jackson and Sclater (Bds. Kenya . . . , 1938, **2**: 868) questioned its occurrence in Kenya Colony, but their doubts are quite without foundation, though it is a rare bird in the northern part of its range.

Our Northern Rhodesia specimens are variable, an extreme being a Chinga stream bird that has dark, dusky breast and flanks. Compared with them three Nyasaland (topotypical) specimens fall within the range of variation of the Lundazi birds.

Through the kindness of Dr. Friedmann I have examined the type of *lonnbergi* (♂ wing, 81; tail, 81 mm.) and another Taveta

specimen, as well as a Taveta and a Moshi specimen in Chicago Natural History Museum. The type of *lonnbergi* differs from the two Taveta specimens in the slightly darker back, the slightly more brownish gray crown, and the slightly deeper fulvous under parts, but the differences are very slight. The Moshi specimen is paler and less fulvous below than any of the three Kenya specimens. Allowing for individual variation and the change of appearance caused by wear and fading, I would group all these birds together.

On the under parts these four northern birds fall within the range of variation of our Nyasaland-Northern Rhodesia series. On the upper parts there is a slight difference, the back being slightly browner olive, and the crown more brownish gray in the northern birds. However, in this material the difference is slight and I recognize no races.

Specimens examined.—Kenya: 3 (Taveta, 2 [1, USNM]; Tharaka District, 1 [type of *lonnbergi*, USNM]). Tanganyika Territory: Kilimanjaro, Moshi, 1. Northern Rhodesia: Lundazi District, 10. Nyasaland: 3 (USNM).

Measurements are as follows:

Kenya: ♂ Wing, 81, 87. Tail, 81, 85. Culmen, 21.

Tanganyika: ♀ Wing, 80. Tail, 78. Culmen, 18.

Northern Rhodesia (allocated to sex by size): Wing, ♂ 87, 87, 88, 88, 90; ♀ 74, 78, 78, 78, 81. Tail, ♂ 83, 85, 85, 86, 89; ♀ 74, 75, 75, 79. Culmen, ♂ 21; ♀ 19.

Nyasaland: Wing, 80, 80, 85; tail, 80, 80, 81; culmen, 20–21.

Phyllastrephus fulviventris Cabanis

This seems to be one of the least known African bulbuls. We have a series of 11 birds from Angola (Gabela and Mucosa, Heinrich coll.). They were taken in tangled secondary tropical woods.

White (Ibis, 1944, p. 553) shows that the old Northern Rhodesia record is an error and the bird does not occur there. He writes me that he suspects it should be considered conspecific with *P. cerviniventris*.

Phyllastrephus poensis Alexander

This is a mountain species (type locality Fernando Po) whose range on the African mainland has been extended to several of the Cameroon mountains by Serle (1950, Ibis, p. 373). Apparently Correia did not collect it on Fernando Po, as Amadon (1953, Bull. Amer. Mus. Nat. Hist., **100**: 423) does not list it.

Phyllastrephus albigularis adametzi Reichenow, 1916, from Bamenda, Cameroon Highlands, is a name that has had unfortunate treatment. Bannerman (1936, Bds. Trop. West Afr., **4**: 177) examined the type and considered it a doubtful race of *P. albigularis*. Serle (1950, Ibis, p. 374) reported that Stresemann examined the type and told him it was a specimen of *P. poliocephalus*. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 177) accepts this. But in 1954, Serle (Ibis, 1954, p. 63) writes that a printer's slip was responsible for the 1950 allocation, and that *adametzi* is a synonym of *poensis*, not of *poliocephalus*.

Specimens examined.—Mount Cameroon (4,000 feet), 1 ♀.

Measurements: Wing, 78; tail, 77; culmen, 20.

Phyllastrephus hypochloris Jackson

Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 162) has commented on the resemblance of this species to members of the genus *Andropadus*, (here included in *Pycnonotus*), with reasons of structure and habits for placing it in *Phyllastrephus*.

Specimens examined.—Uganda, 8 (Ankole, Bwamba Valley, Mabira Forest).

Measurements: Wing, ♂ 75, 76, 81, 83; ♀ 67, 69, 73. Tail, ♂ 73, 74, 76, 80; ♀ 70, 70, 72. Culmen, ♂ 19–20; ♀ 18–19.

Phyllastrephus baumanni Reichenow, 1895

A synonym is *eburneus* Bannerman, 1923, following Bannerman's later treatment. This seems to be a rather rare shy bird from Upper Guinea. We have a single specimen, and I am struck with its similarity to *hypochloris* of the eastern Congo and Uganda. They have the same proportions, the same color pattern (agreeing closely, in this group that is notorious for similarity of plumage), the same rictal bristles, and the same rather broad and short bill that is dark horn and light horn in color.

Though they agree so closely, the differences existing are such as characterize a good subspecies—chiefly the grayer throat, breast and abdomen (rather than more olive) of *baumanni*. Possibly they should be considered conspecific, but I retain this form as a species.

Phyllastrephus poliocephalus Reichenow

This is a bird of the Cameroon Mountains. We have no specimens. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 173) has

suggested that it may be conspecific with *flavostriatus* and from the descriptions this is quite possible and would accord with the treatment of *P. tephrolaema*, a somewhat similar case. However, I am retaining it as a species.

Phyllastrephus flavostriatus Sharpe

This is a bird of the evergreen forest of the highlands in the more tropical parts of Africa, hence with a much interrupted range, but it approaches sea level in Portuguese East Africa. Without adequate material I largely follow Chapin's (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 172 ff.) treatment of races with a few comments.

Several interesting points are apparent in the geographical variation: the northern races have a straighter bill than the southern forms; *P. alfredi* of northern Nyasaland and adjacent areas has the crown brownish like the back, thus contrasting with the gray-headed condition of the rest of the races.

Vincent (1933, Bull. Brit. Orn. Cl., **53**: 134) described as new *P. alfredi itoculo*, a brown-headed bird that occurred in Portuguese East Africa along with *P. f. litoralis* (=*P. f. tenuirostris*), and since the two occurred together he kept *P. alfredi* as a species. However, Grant and Mackworth-Praed (1940, Bull. Brit. Orn. Cl., **60**: 52), after examining the type of *itoculo*, concluded that it is a synonym of *P. munzneri*, one of the *P. fischeri* group, and is not closely related to *alfredi*. Thus there is no reason for considering *alfredi* a separate species. For details of range see Benson (1953, Checklist Bds. Nyasaland, p. 50).

Our specimens of *alfredi*, from Upper Chiri River (3), and Jombo, Mukutu (2), Northern Rhodesia, differ somewhat, for the latter is more brownish olive above (less grayish brown) and the yellow streaking of the under parts is brighter.

P. f. kungwensis, rather similar to *graueri*, is separated from it by the more different *olivaceogriseus*. For comments see Moreau (1945, Ibis, p. 101).

P. f. tenuirostris Fischer and Reichenow, 1884, Lindi, has as a synonym *P. f. litoralis* Vincent (1933, Bull. Brit. Orn. Cl., **53**: 133), type locality near Netia, Mozambique Province, according to Grant and Mackworth-Praed (1940, Bull. Brit. Orn. Cl., **60**: 63). The range of this form was extended northward to the Usambara Forest by Friedmann and then by Sclater and Moreau (Ibis, 1932, p. 676), but it appears to have been unrecorded for Kenya until de Schauen-

see (1951, Proc. Acad. Nat. Sci. Phila., **103**: 48) recorded one from Fort Hall.

In the van Someren collection in Chicago is a single Kenya female from Mount Kasigau, southwest of Voi, taken November 18, 1938 (wing, 85; tail, 83 mm.). Compared with an Usambara male this Kenya bird is somewhat paler grayish below, with yellow streaking slightly more vivid, and slightly grayer back.

Phyllastrephus debilis Sclater

Sclater and Moreau (Ibis, 1932, pp. 678, 679, and 1933, p. 436) have given us the best review of this small East African species. Van Someren (1943, Bull. Brit. Orn. Cl., **64**: 12–15) would break this into two species: *P. debilis* with two races, *debilis* and *rabai;* and *P. albigulus* with two races, *albigulus* and *shimbanus*. However, Sclater and Moreau (loc. cit.) and Moreau's field work show that *rabai* intergrades with *albigulus;* so only one species with three subspecies is recognized here. The iris is brown or white, varying with the subspecies.

Phyllastrephus debilis rabai Hartert and van Someren

P. albigulus shimbanus van Someren (1943, Bull. Brit. Orn. Cl., **64**, p. 12), type locality Shimba Hills, is a synonym.

The iris is whitish cream or whitish yellow, as marked on the labels of Rabai, Shimba, and Uluguru specimens.

Birds from Sokoke, Ganda and Rabai (type locality) are fairly uniform. Birds from the Shimba Hills, which van Someren characterized as a new race, *shimbanus*, intermediate in character between *rabai* and *albigulus*, are in effect intermediate. Our specimens show the back slightly darker and greener, the gray crown slightly darker, and the breast and flanks slightly duskier, compared with *rabai;* the iris is marked on the label as cream, as in *rabai*. In comparison with *albigulus* the back is similar, but the crown is distinctly gray, not green, the flanks and breast are considerably less grayish or grayish olive, the abdomen has more of a yellowish tinge, and the iris is white, not brown.

Sclater and Moreau (loc. cit.) have shown that *rabai* occurs in the lower and eastern Usambara Mountains and intergrades with *albigulus* there. Presumably these are like the Shimba birds. While differences exist, the Shimba birds are only slightly different from Rabai birds and it seems advisable to consider *shimbanus* a synonym.

Uluguru birds are slightly paler gray on the head, slightly paler green on the back, and slightly duskier on the flanks than Rabai birds, but again the differences are slight and separation of them seems inadvisable.

Moreau (1940, Ibis, p. 457) records this race from Mount Mafi.

Specimens examined.—Kenya, 42 (Sokoke, Ganda, Rabai, Shimba Hills). Tanganyika Territory, 3 (Kimboza Forest, Uluguru Mountains).

Measurements: There is no variation in size, as the following summary shows: Wing, ♂ Sokoke, 61–70; Ganda, 69, 69, 70; Rabai, 64–69; Shimba, 65–69; Uluguru, 69 mm.

The details, from the largest (Sokoke) series, are as follows: Wing, ♂ (10) 61–70 (av. 65.2); ♀ (7) 61–66 (av. 63). Tail, ♂ (7) 61–65 (av. 62.8); ♀ 56, 57, 59, 60, 62. Culmen, ♂ 16–17; ♀ 15–16 mm. Tarsus, 17–18.

Phyllastrephus debilis albigulus Grote

This race was described as a *Macrosphenus* (Sylviidae), and Sclater, in his *Systema,* placed it in *Suaheliornis* (Timaliidae). The short tarsus and general characters place it here.

Apparently this race is restricted to the Usambara and Nguru Mountains. It intergrades with the preceding form, *rabai,* in the lower altitudes and eastern part of the Usambara Mountains (see Moreau, Ibis, 1933, pp. 436, 437), the intergradation being complete within 8 miles and 2,000 feet altitude. For Nguru record see Moreau (1940, Ibis, p. 457).

This race is quite distinct from *rabai:* the iris is brown (not whitish); the crown green (not gray); the back darker green; the breast darker and more grayish; the flanks darker, more grayish olive; and the abdomen less yellowish streaked and tinged.

Specimens examined.—Lushoto Forest, Amani, 3.

Measurements: Wing, ♂ 66; ♀ 63, 66. Tail, ♂ 59; ♀ 58, 60. Culmen, ♂ 16; ♀ 15. Tarsus, 17 mm.

Phyllastrephus debilis debilis Sclater

Sclater (1932, Ibis, p. 679) says that this form is "a good deal yellower and less gray on the underparts" than the other forms.

Apparently the race is known only from the type locality, Inhambane, Portuguese East Africa, and Nchingidi, Rondo Plateau, Tanganyika Territory (Peters and Loveridge, 1942, Bull. Mus. Comp. Zool., **89**: 248).

Phyllastrephus lorenzi Sassi

Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 171) says that this species is known from but three specimens taken in the eastern Congo (Ituri) Forests, but Schouteden (1954, Ann. Mus. Roy. Congo Belge, (4), **4**, fasc. 1, p. 98) lists additional specimens from Uele and Kivu.

Phyllastrephus fischeri

This species, ranging from southern Sudan, Kenya, and Uganda to Portuguese East Africa and Nyasaland and thence west through the southern Congo and Rhodesia to Angola, is in part a mountain bird, with a much interrupted range. It is clearly divisible into three well-defined groups on the basis of color differences, as follows:

fischeri: Lowlands of East Africa from Tana River to northern Portuguese East Africa.

placidus: Mountain forests from northern Kenya (Marsabit) to Nyasaland (an interrupted range).

sucosus and *cabanisi:* Forests from southern Sudan, Uganda, to Northern Rhodesia and east to Angola; separable into two populations on size.

P. f. fischeri is a brownish olive bird above, browner on the crown; under parts pale olive gray with belly paler and more yellowish; throat white; *sucosus* and *cabanisi* have the upper parts greenish with crown like back, and under parts very much more yellowish green. These two forms are different enough so that the intermediate *placidus* with crown more or less brownish olive, back more olive, with a slight yellow wash on the throat, and rest of under parts intermediate yellowish olive can be given a definite range and most specimens identified.

Differences in color between various populations within each of these populations exist. But to define and delimit most of these populations is a fruitless task. First, though it appeared from a preliminary inspection that several subspecies could be separated on color, it was soon apparent that make of skin affected size and sharpness of demarcation of the white throat area, and also the depth of the olive gray wash on the breast. Second, museum age of skin, "foxing," as shown by Nairobi area birds taken at various times over the years, causes an amazing change; the older skins are more olive brown on the back, more brownish on the crown, and more reddish brown on the wings and duller below. With this in mind, and with

as great differences between samples due to age as any apparently due to geographical variation, I found it impractical to separate any populations on color, and any trends indicated are only tentatively set forth.

Size variation can be more objectively evaluated, though the pronounced difference between the sexes and the possibility of erroneous sexing makes a hazard in evaluating small samples. Size variation exists in all three groups outlined above. In one, *sucosus–cabanisi*, the difference between northern (smaller) and southern (larger) birds is such as is usually used in separating subspecies, and these I accept as two subspecies. In *fischeri*, the size difference, again larger southward, is at a level where some taxonomists would use it in recognizing two subspecies while others would not; in the third, *placidus*, the variation in size is considerable, but the distribution of the populations differing in size is peculiar, a single mountain (Kenya) having the largest-sized populations with medium-sized birds around it and small birds in the south (not north as in the other races). Any allocation of populations to two races seems unreasonable, as concealing more facts than it reveals.

A further factor that has as yet received little attention is that each of the three types of plumage has a long narrow range, roughly parallel in part at least. This implies that intermediate populations would occur over long, narrow belts. Though Moreau (1937, Bull. Brit. Orn. Cl., **57**: 128) is of the opinion that the lowland and the mountain forms are two species that occur in the Usambara area and do not meet because of habitat preferences (lowland vs. mountain forest), this might not apply elsewhere. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 164) has mentioned what seem intermediate trends in the Lake Nyasa and in the Mbulu area, and I discuss them and another intermediate western Kenya population below.

With all this in mind, four subspecies, each with varying populations within it, have been adopted as outlined earlier. They are:

Phyllastrephus fischeri fischeri Reichenow

Synonyms are: *grotei* Reichenow, 1910; *munzneri* Reichenow, 1916; *sokokensis* van Someren, 1923; *P. alfredi itoculo* Vincent, 1933 (Bull. Brit. Orn. Cl., **53**: 134).

This is the race of the lowland forests of East Africa. There is an increase in size from north to south, as the following measurements show:

Kenya (Sokoke): Wing, ♂ 86–92 (for details see below).

Southeastern Tanganyika Territory (Mikindani):[1] Wing, ♂ 92, 93, 97.

Portuguese East Africa:[1] Wing, ♂ 96.

However, as discussed above, I do not recognize this as sufficient for setting up a southern, larger subspecies, though there are three names available, with *grotei* Reichenow, 1910, the oldest (not *munzneri* as has been used), for the southern birds.

The type locality of *fischeri* has been given as Muniuni, near the mouth of the Juba River, and this appears to have been the basis of quoting the range as coastal Kenya "from Juba River" southward. Actually Muniuni, the type locality as Reichenow spelled it, is on the Tana River near its mouth, according to Reichenow, and I can find no evidence for the occurrence of this form north of Witu, just north of the Tana.

P. p. sokokensis van Someren, 1923, when described, was compared only with *placidus* and its range as given included the actual type locality of *fischeri*.

The types of *grotei* and *munzneri* are in Berlin, where Grote and Stresemann examined them and decided they were of the *fischeri* type of plumage, and the type of *itoculo* is in the British Museum, and belongs also with them. (Moreau, 1947, Bull. Brit. Orn. Cl., **67**: 88–90, recognized the larger southern birds as a distinct subspecies, meeting *fischeri* in the Usambara area.)

The range extends south to near Netia, Portuguese East Africa, the type locality of *itoculo*.

Specimens examined.—Kenya, 70 (Sokoke, Rabai, Ganda, Shimba Hills).

Measurements are as follows:

Kenya: Sokoke: Wing, ♂ (10) 85–91 (av. 88.9); ♀ (10) 77–82 (av. 79.1). Tail, ♂ 83–93 (av. 88.7); ♀ 79–83 (av. 81.1). Culmen, ♂ 21–24; ♀ 19–22 mm.

Tanganyika Territory: Mikindani: Wing, 83, 92, 93, 97 (topotypes of *grotei*). Sanyi, Mahenge: Wing, 96 (from Moreau).

Portuguese East Africa: Wing, ♂ 96; ♀ 84, 84, 85 (from Moreau).

Phyllastrephus fischeri placidus Shelley

Synonyms are: *keniensis* Mearns, 1914, Mount Kenya; *cognatus* Grote, 1919, Mlalo, Wilhelmstal; *marsabit* van Someren, 1930 (Jour. East Afr. Ug. Nat. Hist. Soc., no. 37, p. 197), Marsabit; *chyuluensis*

[1] Moreau, 1947, Bull. Brit. Orn. Cl., **67**: 88–90.

van Someren, 1939 (Jour. East Afr. Ug. Nat. Hist. Soc., **14**: 66), Chyulu Hills.

The range is from the highlands of Kenya east of the Rift Valley (Marsabit, Mount Kenya, Chyulu Hills) south to Portuguese East Africa (Mount Namuli) and Nyasaland (Moreau, 1937, Bull. Brit. Orn. Cl., **57**: 127) and to Mlanje (Benson, 1953, Checklist Bds. Nyasaland, p. 50).

The most obvious character that groups these birds together is the olive yellowish under parts.

When topotypes of all four of the names synonymized were compared with topotypes of *placidus* from Kilimanjaro, as well as the other specimens listed beyond, at first it appeared that several series could be separated on color; but it was soon apparent that the make of skin affected the size and sharpness of demarcation of the white throat area and also the apparent depth of the dusky wash on the breast. Further, museum age of skin ("foxing") as shown by Nairobi area birds causes considerable change, the older skins being more olive brown on the back, more brownish on the crown, and more reddish olive on the wings. With this in mind, and allowing for individual variation, I can only suggest the following apparent trends: birds from the southern part of the range, especially Rungwe, Tanganyika Territory, are slightly greener on the crown than northern populations. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 164) has already commented on this for the Lake Nyasa area birds.

There are very definite trends in variation in size. The Mount Kenya birds are largest, with Marsabit and Nairobi birds next, and more southern birds smaller again.

However, any subspecies based on the varying tenuous characters of these scattered populations seems unsatisfactory. If the southern birds were to be separated, presumably *cognatus* Grote, given to the Usambara birds, would be applicable, despite the unfortunate location of the type locality, near the central part of the intergrading series rather than at the southern end.

Specimens examined.—Kenya, 49 (Marsabit, 11; Chyulu Hills, 4; Teita Hills, 2; Kasigua, Voi, 1; Nairobi area, 19; Mount Kenya [Chuka, Meru, 12]. Tanganyika Territory, 12 (Kilimanjaro, 2; Usambara, 5; Iringa District, 1; Rungwe District, 4).

Measurements are as follows:

Marsabit: Wing, ♂ 86, 89, 91; ♀ 77, 77, 77, 79, 80, 80, 81. Tail, ♂ 80, 85, 87; ♀ 73, 73, 75, 75, 78, 78, 82. Culmen, ♂ 19–22; ♀ 18–20.

Mount Kenya: Wing, ♂ 92, 92, 92, 93, 93, 94, 96; ♀ 82, 84, 86, 86. Tail, ♂ 85, 86, 87, 88, 89, 90, 93; ♀ 77, 79, 81. Culmen, ♂ 21–23; ♀ 19–20.

Nairobi area: Wing, ♂ (10) 85–92 (av. 89.1); ♀ (7) 75–85 (av. 80.8).

Kilimanjaro: Wing, sex? 80, 83.

Chyulu Hills: Wing, ♂ 87, 89; ♀ 78, 80.

Usambara: Wing, ♂ 83, 85, 86; ♀ 82, 85.

Iringa highland: Wing, ♀ 79.

Poroto Mountains, Rungwe District: Wing, ♂ 82; ♀ 76, 77.

Phyllastrephus fischeri sucosus Reichenow

Synonyms: *modestus* Reichenow, 1908 (in Semliki); *dowashanus* Madarasz, 1910 (Ngare-Dowash [=Mara River]).

The range is from the highlands of southern Sudan, Uganda, Kenya, west of the Rift Valley, nearby central northern Tanganyika (Loliondo) and the eastern Belgian Congo to Baraka on Lake Tanganyika in the Kivu.

The most constant characters separating this from the preceding races are the much more intense yellowish throat and yellowish olive under parts; the greener crown, more like the greenish back, is another character but it is much affected by foxing.

The type locality of *sucosus* is Bukoba, Uganda. The name *modestus*, from the Semliki area of the Belgian Congo, was shown to be a synonym by Gyldenstolpe (1924, K. Sv. Vet.-Akad. Handl., (3), **1**, no. 3, p. 177). *P. dowashanus* Madarasz from Ngare-Dowash (=Mara River), Kenya, was considered to be a synonym of *placidus* by Sclater in 1930 (Syst. Av. Aethiop., p. 384), but in 1938 (Jackson and Sclater, 1938, Birds of Kenya, etc., **2**: 869) he allocated it to *sucosus*. This latter is probably correct, for Kericho birds, which are the nearest we have to topotypes, are closest to *sucosus* examples from Uganda though somewhat intermediate (see below).

P. cabanisi (sometimes under the name *sucosus*) has often been kept as a species. Chapin (1953, Bull. Amer. Mus. Nat. Hist., **74A**: 165) reunites it with *fischeri*, and our specimens from Kericho and from Eldama Ravine certainly show an approach to the *placidus* of the Nairobi area in the paler under parts, though I consider them closer to *sucosus*. There is also a slight increase in size in the Kenya populations of this subspecies, another approach to *placidus* to the east.

Specimens examined.—Uganda, 8 (Toro, Bwamba Pass, Ankole, Mengo, Mabendi). Kenya, 28 (North Kavirondo, Mau slopes, Eldama Ravine, near Cherangari Hills, Kericho).

Measurements are as follows:

Uganda: Wing, ♂ 82, 82, 83; ♀ 72, 73, 74, 75, 77. Culmen, ♂ 18–20; ♀ 18.

Kenya: North Kavirondo: Wing, sex? 72, 75, 76, 77, 77, 78, 82, 82, 83, 85. Kericho: Wing, ♂ 84, 86, 87, 88; ♀ 76, 81, 82. Mau slopes: Wing, ♂ 91; ♀ 73, 79, 83. Eldama Ravine: Wing, ♀ 77, 82 mm.

Phyllastrephus fischeri cabanisi Sharpe, 1881

Synonyms: *sylvicultor* Neave, 1909, Dikuwle River, Katanga.

The range includes Angola, southern Belgian Congo, Northern Rhodesia, and parts of southwestern Tanganyika Territory (Ufipa) (Chapin). This race is like *sucosus* but larger (see measurements).

The type locality of *cabanisi* is Angola. Chapin (1944, Ibis, p. 544) has explained the earlier misunderstanding about the name *cabanisi* and the reason why *sylvicultor* from the Katanga was later given to the same bird.

Our Angola birds are topotypical *cabanisi;* our specimens from extreme northwestern Northern Rhodesia are similar in color but a little smaller; specimens from Lundazi, eastern Northern Rhodesia, are a little more dusky on flanks and breast, but as they are about the same size and the crown is as green as the back, they are best grouped here.

This subspecies is represented by fresh skins only, in our collection. Compared with the older skins by which *sucosus* is represented, conspicuous color differences are apparent, especially the clearer yellowish olive gray of the under parts and clearer green, less brownish olive, of the upper parts of the fresh skins. Undoubtedly most, if not all, of these differences are due to museum age of skins, and I use size in separating these populations, with the reservation that some of the observed color differences may be good.

Specimens examined.—Angola, 10 (Luhanda, near Quela; Duque de Braganca). Northern Rhodesia: northwestern, 6 (Mwinilunga, Solwezi); Lundazi, 5.

Measurements are as follows:

Angola: Wing, ♂ 92, 93, 95, 95; ♀ 82, 86, 86, 87, 87, 90. Tail, ♂ 89, 91, 95, 96; ♀ 83, 83, 84, 85, 90, 91. Culmen, ♂ 21–22; ♀ 19–20.

Northern Rhodesia: northwestern: Sex? 80, 81, 87, 88, 90, 91. Lundazi: Sex? 82, 89, 91, 92, 92 mm.

Phyllastrephus icterinus

Chapin (1944, Ibis, pp. 543–545) has shown that *icterinus* and *xavieri* (formerly almost universally called *cabanisi*, which name properly is applied to a western race of *fischeri*) are two species, occurring together over much of their range. Chapin also shows that *P. sethsmithi* Hartert and Neumann, 1910, Budongo, Unyoro, which has usually been considered a larger eastern race of *icterinus*, is actually a synonym of *xavieri*.

The two species are separable on size only, comparing sex with sex, but sexual dimorphism is great and the larger males of *icterinus* are distinguishable from the smaller females of *xavieri* in museum skins only by the sexing (wing, *icterinus*, ♂ 71–80; ♀ 65–70; *xavieri*, ♂ 83–91; ♀ 72–77 [Chapin]). It is probable that more overlap occurs than these figure show and that certain specimens could not be allocated with certainty.

Though Chapin says *icterinus* does not reach farther east than Semliki Valley of the Belgian Congo, we have two adult females from Budonga that are certainly *icterinus* on size. Two other specimens from Budonga, one labeled a male, the other a female, taken about the same time, I refer to *icterinus*, though they could be female *xavieri*.

Evidently the relative abundance of this species and *xavieri* varies greatly. In our collection we have 39 specimens of *xavieri* but none of *icterinus* from Bugoma Forest, while from nearby Budonga we have the above-mentioned four *icterinus* only. However, that *xavieri* occurs at Budonga is shown by its being the type locality of *sethsmithi*, the type a male, having a wing of 90 mm. Furthermore, from Cameroon we have 44 specimens of *icterinus* and only five of *xavieri*.

I have seen no Upper Guinea specimens and accept Chapin's allocation of Upper Guinea birds to *P. i. icterinus* Bonaparte, 1850, type locality Guinea, and *P. i. tricolor* Cassin, 1857, type locality Muni River for the lower Guinea birds, from Cameroon south and east, based on their duller, less yellowish under parts. Compared with Uganda birds our Cameroon birds perhaps average slightly duller yellow on the under parts; otherwise they are very similar.

Specimens examined.—Uganda, 7 (Budonga, Semliki); Gabon, 4; Moyen Congo, 1; Cameroon, 44; Nigeria, 1.

Measurements are as follows:

Uganda: Wing, ♂ 74, 75; ♀ 68, 68. Tail, ♂ 69, 71; ♀ 59, 62. Culmen, ♂ 18, 18.5; ♀ 16.5, 17.

Cameroon: Wing, ♂ (10) 75–82 (av. 78); ♀ (10) 69–74 (av. 72.3). Tail, ♂ 68–76 (av. 69.8); ♀ 59–69 (av. 64.3). Culmen, ♂ 19–20; ♀ 17–19.

Phyllastrephus xavieri Oustalet, 1892

This species has been known in part as *P. cabanisi* (which is properly the name of a western race of *P. fischeri*) and in part as *P. icterinus sethsmithi* (which is a synonym of *P. x. xavieri*), until 1944, when Chapin (1944, Ibis, pp. 543–545) straightened out the nomenclature and showed that *icterinus* and *xavieri* were two closely related species with a considerable overlap in their ranges (see under *P. icterinus*). There are two races.

Phyllastrephus xavieri serlei Chapin (1949, Bull. Brit. Orn. Cl., **69**: 70), type locality Kumba, British Cameroons, with a range in British Cameroons, I have not seen. It is described as like *P. x. xavieri* but paler yellowish below. Measurements: Wing, ♂ 84–87; ♀ 71–77. Tail, ♂ 74–79; ♀ 61–68 mm. (Chapin).

P. x. xavieri Oustalet (1892, Naturaliste, (2), **6**: 218), type locality Bangui on the Ubangi River, is the form ranging from the forests of French Cameroon across the forests of the upper Congo to the Bugoma and Budongo Forests of western Uganda.

P. icterinus sethsmithi Neumann and Hartert, 1910, was described from Budongo; the type, a male with a wing of 90 mm., was considered as a race of *icterinus* and the name was so used for many years. However, Chapin showed that it definitely applied to this larger species. Chapin has suggested that Uganda birds, being yellower below than Congo birds, might represent a valid race to which the name *sethsmithi* would apply. Compared with Cameroon birds our Uganda birds do average yellower below, slightly darker olive green above, and slightly darker brown on the tail. However, French Cameroon birds appear intermediate between the pale yellow British Cameroon birds, *P. xavieri serlei*, and the more richly colored eastern birds, and it seems advisable to use but two names in dividing this one type of variation in the species—*serlei* for the western

birds and *xavieri* for the intermediates and the eastern birds—considering *sethsmithi* a synonym of *P. x. xavieri.*

Specimens examined.—Uganda, 42 (Bugoma, 39; Bwamba, 3); Cameroon, 5 (Sangmelima, Lolodorf).

Measurements are as follows:

Uganda: Wing, ♂ (10) 86–92 (av. 88.7); ♀ (7) 73–77 (av. 75.1). Tail, ♂ 80–86 (av. 82.9); ♀ 66–72 (av. 69.2). Culmen, ♂ 21–23; ♀ 18–19.

Cameroon: Sex? Wing, 81, 84, 85, 89, 90. Tail, 71, 75, 78, 79, 80. Culmen, 20–22.

Phyllastrephus madagascariensis Gmelin

This, the type of the genus *Bernieria,* has only one character which could be used as a generic character, the more elongate and more hooked bill of the male. It also has a slightly heavier tarsus. Otherwise it is very like *P. xavieri,* and the bill of the smaller female is very like that of the male of *xavieri;* additional differences, of more importance than minor color characters, are the less elongate rictal bristles and the green (not brownish) tail of *madagascariensis.*

There are two quite distinct races, separable on intensity of coloration, and this is correlated with humidity.

Phyllastrephus madagascariensis madagascariensis Gmelin, 1789

This is the dark, vivid yellow and olive bird of the forests of eastern Madagascar.

Specimens examined.—Eastern Madagascar, 4 (Maroantsetra, N. E., Forest of Sianaka, Manombo).

Measurements: Wing, ♂ 85, 90; ♀ 73, 73. Tail, ♂ 73, 82; ♀ 62, 65. Culmen, ♂ 28, 28; ♀ 22, 22. Tarsus, ♂ 24; ♀ 23.

Phyllastrephus madagascariensis inceleber Bangs and Peters, 1926

This is the much paler bird, above and below, of the drier country, the northern half of western Madagascar and the rain forest on Mount d'Ambre.

Specimens examined.—Northwestern Madagascar, 2 (Mount d'Ambre, near Maromandia; and near Tsarakibany).

Measurements: Wing, ♂ 87; ♀ 75. Tail, ♂ 78; ♀ 68. Culmen, ♂ 27; ♀ 24. Tarsus, ♂ 24; ♀ 22.

Phyllastrephus zosterops Sharpe

From an ecological point of view, *P. zosterops* seems to stand in the same relationship to *P. madagascariensis* as does *P. icterinus* to *P. xavieri* of the rain forests of Africa, in each case a larger and a smaller species of the same genus, with a large part of their ranges in common and rather similar habitat. However, while *madagascariensis* seems close to *xavieri* and *xavieri* is so similar to *icterinus* that some unsexed specimens are difficult to identify, *zosterops* is not nearly so similar to either *madagascariensis* or *icterinus*. Indeed Salomonsen (1934, Ann. Mag. Nat. Hist., (10), **14**: 68) puts *zosterops* in a different genus (*Oxylabes*) from that in which he places *madagascariensis* (*Bernieria*), and earlier Sharpe erected a genus for *zosterops* (*Xanthomixis* Sharpe, 1881). Delacour (1943, Zoologica, **28**: 18, 25) has, however, grouped them under *Phyllastrephus*, as he has also *tenebrosa*, *xanthophrys* and *cinereiceps*. While not entirely happy with this solution, in lieu of a better one I am following it, listing them at the end of the genus which at least has the advantage of keeping them together. *Oxylabes*, with which some of these have been associated, has as genotype *O. madagascariensis* and is a quite different bird, as Delacour (loc. cit.) has said; possibly it is a warbler.

The geographical variation in *P. zosterops* has been reviewed by Delacour (1932, Oiseau, **2**: 68) and by Salomonsen (op. cit., pp. 68–71), and commented on by me (1936, Bull. Amer. Mus. Nat. Hist., **72**: 453–455). The variation outlined exists, but when material from intermediate localities has been collected perhaps fewer names will be used to indicate it. Salomonsen has overstressed the isolation of his subspecies. The species undoubtedly has a continuous range in the body of the humid forests that stretch along eastern Madagascar, with an isolated population on Mount d'Ambre in the extreme north and possibly others in peripheral forest areas, as near Fianarantsoa. In general, the named subspecies will probably prove to represent stages on general trends which seem as follows:

(1) *fulvescens*, Delacour, 1931, Mount d'Ambre, north Madagascar; a very pale race.

(2) *andapae*, Salomonsen, 1934, northern end of continuous forest; a somewhat darker form.

(3) "*maroantsetrae*," Salomonsen, 1934, just south of *andapae;* darker again than *andapae*. It seems unnecessary to use a name for this stage on the cline and I synonymize it with *zosterops*.

(4) *zosterops*, Sharpe, 1875, of the central and southern rain forest of eastern Madagascar; the darkest race, especially dark in the Sia-

naka–Fanovana area and becoming pale southward (i.e., more like "*maroantsetrae*").

(5) *ankafanae*, Salomonsen, 1934, apparently of the forests at higher altitudes near Fianarantsoa in southeast; a pale, less greenish race, which I have not seen.

Bleda syndactyla

Bleda syndactyla syndactyla Swainson, 1837

Without Upper Guinea material I accept Chapin's (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 179) conclusion as to the validity of this slightly browner race.

Bleda syndactyla multicolor Bocage, 1880

This race, characterized by slightly greener upper parts, ranges from southern Nigeria and Cameroon to Angola and eastern Congo. Though Nigeria birds are sometimes referred to the Upper Guinea race, our single Nigeria specimen is not separable from Cameroon birds. However, Marchant (1954, Ibis, p. 374) calls Ondo-Benin birds *syndactyla* and extends the range of *multicolor* only to Owerri. The populations included here are not completely uniform. Angola birds are slightly clearer green above and have the outer edges of the remiges clearer green than do Gabon birds. This is apparent in our freshly collected Angola birds when they are compared with recently collected Gabon and Cameroon birds, and is still more apparent when they are compared with older Cameroon skins. This indicates that part, but not all, of the observed difference is due to foxing. This geographical variation in color presumably is due to Cameroon birds showing an approach to the browner-backed *B. s. syndactyla* of Upper Guinea.

From the description of *Criniger multicolor* Bocage there is no doubt that it applies to this species, and the description is that of a bird in immature plumage, as Chapin (1953, Bull. Amer. Mus. Nat. Hist., **75A**: 179) has pointed out. Thus, *ogowensis* Neumann, 1914, from Gabon, the name usually used for this subspecies, becomes a synonym.

One of the Gabon specimens, an adult male, from Cape Esterias, near Libreville, is aberrant in having the yellow and green pigments much reduced, and the upper parts and the flanks much more grayish olive, while the throat and abdomen are pale, yellowish white. Another male from the same locality is normal.

Specimens examined.—Cameroon, 9; Gabon, 2; Angola, 6; Nigeria, 1 (Ifon, Prov. Ondo).

Measurements are as follows:

Cameroon: Wing, ♂ 114, 116, 120; ♀ 109, 111, 111. Tail, ♂ 101, 103, 103; ♀ 92, 92, 96. Culmen, ♂ 26–29; ♀ 25–27.

Angola: Wing, ♂ 110, 112, 116, 119; ♀ 107, 110. Tail, ♂ 102, 107; ♀ 100. Culmen, ♂ 28–30; ♀ 24, 25.

Bleda syndactyla woosnami Ogilvie Grant, 1907

The type locality is in Uganda, hence all our material is practically topotypical. In addition to the considerably richer yellow under parts these birds are smaller than West African birds.

Specimens examined.—Uganda, 27 (Mabira, Mengo, Bugoma, Budongo, Toro, Kigezi, Bwamba); Belgian Congo, 1 (Kivu).

Measurements: Wing, ♂ (10) 105–115 (av. 109.4); ♀ (8) 97–101 (av. 100). Tail, ♂ 91–98 (av. 94.5); ♀ (8) 84–88 (86.6). Culmen, ♂ 25–27; ♀ 22–24 mm.

Bleda eximia

Bleda eximia eximia Hartlaub, 1855

This upper Guinea race is not represented in the Chicago Natural History Museum collection.

Bleda eximia notata Cassin, 1856

This lower Guinea race, ranging from southern Nigeria to the lower Congo, differs from the preceding in the brighter yellow spot before the eye and wider yellow tips to the tail feathers (Chapin).

Specimens examined.—Cameroon, 11; Gabon, 15.

Measurements: Wing, ♂ (10) 93–101 (av. 97.5); ♀ 88, 89, 91. Tail, ♂ (10) 82–92 (av. 87.7); ♀ 77, 80, 81. Culmen, ♂ 20–23; ♀ 19–20 mm.

Bleda eximia ugandae van Someren, 1915

The duller spot in front of the eye, compared with *notata*, seems a very good character. Compared with *notata*, the size is also larger.

Specimens examined.—Uganda, 4 (Ankole, Mabira); Belgian Congo, 1 (Ituri); French Middle Congo, 1 (Impfondo).

Measurements: Wing, ♂ 105, 107; ♀ 97, 102. Tail, ♂ 96, 98; ♀ 90, 91. Culmen, ♂ 25; ♀ 22.

Bleda canicapilla Hartlaub

Bannerman gave the range as from Sierra Leone to Togoland, but expected it would also be found in southern Nigeria, whence our specimen comes.

Specimens examined.—Nigeria, 1 (Prov. Benin, Uyere).

Measurements: ♂, wing, 95; tail, 91; culmen, 23; tarsus, 28 mm.

Nicator vireo Cabanis, 1875

The type locality is Chinchoxo, Portuguese Congo. In 1952 Serle described *N. v. tando* Serle (Bull. Brit. Orn. Cl., **72**: 95) with type locality N'Dalla Tando, northern Angola, on the basis of lighter gray forehead, brighter green occiput, mantle, back, rump, and upper tail coverts, lighter gray breast and belly, and paler yellow under tail coverts. He makes no mention of the number of specimens examined. In 1953, Chapin (Bull. Amer. Mus. Nat. Hist., **75A**: 185–186) recognized no subspecies but he commented on four Angola specimens, saying that they are somewhat lighter below than are Cameroon and Ituri specimens.

Specimens examined.—Cameroon, 7 ♂, 2 ♀; Gabon, 1 ♂; Bwamba, Uganda, 2 ♂; northern Angola, 6 ♂.

The Angola birds have a very slightly longer tail than do the other birds. Measurements: ♂ tail: Bwamba, 82, 84; Cameroon, 79–85; Gabon, 80; Angola, 80–87.

In color I can see no difference between Cameroon and Angola birds, not even an average one. The Bwamba birds are slightly lighter green above than average West African birds, but they fall within the range of variation, being very similar to paler Angola and Cameroon birds.

Evidently no subspecies can be recognized.

Nicator gularis Hartlaub and Finsch

Though it is quite true that *gularis* of eastern Africa and *chloris* of West Africa have separate ranges, these do not meet, no intergrades are known, and the differences on a number of characters are so large that it seems advisable to keep *chloris* and *gularis* as two species, following Chapin.

Criniger ndussumensis Reichenow

These birds always have a red-brown tail and upper tail coverts. They look very much like *C. c. calurus* of Cameroon but the bill is

slightly shorter and considerably more slender; there is a more pronounced grayish-white spot in front of the eye; the rictal bristles and nuchal hairs are less well developed; the flanks average darker, and the under tail coverts are usually more buffy (less plain yellowish).

The bird recognized here as a species has been called a subspecies of *calurus* in the Ituri area and an extreme variant of *calurus* in the Cameroon area by Chapin (1948, Auk, **65**: 444; and 1953, Bull. Amer. Mus. Nat. Hist., **75A**: 132), but Berlioz (1955, Bull. Mus. Nat. Hist. Nat., (2), **27**: 189) and White (1956, Bull. Brit. Orn. Cl., **76**: 158) have held that two species are represented.

I have borrowed the material in the American Museum that Chapin collected, and that in the U. S. National Museum, which, combined with that in Chicago, gave a series of nearly 150 specimens of *calurus* and *ndussumensis*. Evidently *ndussumensis* is much the scarcer, for I have only 13 specimens of it. This material indicates a complex situation.

In the Cameroon and Gabon material every specimen is of unequivocal allocation. The correlation of the several small details makes it extremely probable that we are dealing not with individual variants but rather with species, as Berlioz and White have claimed.

In the eastern Belgian Congo, however, the picture is different. A Moera bird and a Semliki Valley (lower Butagu River) bird agree with Cameroon birds. On the other hand, specimens from the more northern or western localities of Irumu, Medje, Avakubi and Gamangui are closer to *calurus*, here represented by the greenish-tailed race *C. c. emini*. A series of birds from Augumu, 190 km. west of Lake Edward, are, as Chapin reported (op. cit., p. 136), partly *emini*, but they show a considerable approach to *ndussumensis* on one or another character. Some thin-billed birds are otherwise *emini*, and some thick-billed birds have more color characters of *ndussumensis*, but none has the complete *ndussumensis* characters; notably none has as rufous a tail.

Chapin (loc. cit.) has studied this material and concluded that *ndussumensis* is a race of *calurus*, with a small range in the Semliki area, and that it intergrades with *C. c. emini* extensively in surrounding areas. His extensive field work in this area has convinced him that the two forms represent but one species there. My findings on his material agree with his conclusions for this area.

This situation in which two sympatric forms behave as species in part of the range and hybridize in another part recalls the somewhat similar situation but with most of the forms allopatric, in *Pycnonotus*

barbatus. The northern African races, *arsinoe, goodi, nigeriae, gabonensis, tricolor,* and *minor,* form an intergrading connecting series from the Sudan–Lake Chad area, Nigeria, Cameroon, Gabon, and Congo, to Sudan again, where *minor* and *arsinoe* are said to live together as species. In the case of *Pycnonotus barbatus* the area of overlap is so small, compared with the area where they represent each other as subspecies, that I have called them all subspecies of one species. In the present case *Criniger calurus* and *C. ndussumensis* live together over a considerable area (White says from southeastern Nigeria to eastern Congo) while the birds hybridize only in a very small area in the eastern Congo, so that the treatment of the two as species seems preferable.

Specimens examined.—Cameroon, 8 ♂, 1 ♀ (Bitye, Sangmelima, Lolodorf, Djoum). Gabon, 2 sex? (Mimongo-Poingi, Mouila-Mount Tandou). Belgian Congo, 2 (Moera, 1; Butagu River, Semliki Valley, 1; AMNH).

Measurements are as follows:

Cameroon: Wing, ♂ (7) 90–95 (av. 91.5); ♀ 87. Tail, ♂ (8) 74–80 (av. 77.1); ♀ 76. Culmen, ♂ 19–20; ♀ 18. Tarsus, 20–21.

Gabon: ♂ wing, 82; tail, 74; culmen, 18.5; tarsus, 19.5.

Eastern Congo: ♂ wing, 96; tail, 82; culmen, 20; tarsus, 21.

Criniger calurus

The measurements of the two races that have been confused with *ndussumensis* are given below for comparison.

Criniger calurus calurus Cassin, 1857

This is the brown-tailed form from southern Nigeria to the mouth of the Congo River. Cameroon birds give the following measurements: Wing, ♂ (10) 87–95 (av. 91.6); ♀ (10) 85–90 (av. 87.6). Tail, ♂ (10) 77–86 (av. 82.1); ♀ (10) 74–82 (av. 78.3). Culmen, ♂ 21–23; ♀ 20–22. Tarsus, ♂ 20–23; ♀ 21–22 mm.

Criniger calurus emini Chapin, 1948

This is the green-tailed bird from the Middle Congo River to Uganda. Measurements of Uganda birds, where the species *ndussumensis* does not occur are: Wing, ♂ (10) 89–97 (av. 92.4); ♀ (10) 83–88 (av. 86.3). Tail, ♂ (9) 83–90 (av. 85.4); ♀ (10) 72–81 (av. 75.8). Culmen, ♂ 20–22; ♀ 19–20. Tarsus, ♂ 22; ♀ 20–22.

The smaller bill of Uganda birds is a slight approach in length but not in thickness to the smaller, more slender bill of *ndussumensis*.

Tylas

Though *Tylas* has been excluded from the bulbuls by Delacour, there doesn't seem to be a better place to put it. Delacour's suggestion that it is a thrush, possibly, is not very convincing.

The genus contains one species, *T. eduardi* Hartlaub, in which two subspecies are recognizable: *T. e. eduardi* of the east, and *T. e. albigularis* Hartlaub of western Madagascar (see Delacour, 1932, L'Oiseau et Rev. Franc. Orn., II, p. 70; and Rand, Bull. Amer. Mus. Nat. Hist., **72**: 457).

Publication 855